NATURE
CONSERVANCY
COUNCIL

British Red Data Books:
2. Insects

Edited by D. B. Shirt

Co-ordinated by
the Insect Red Data Book Committees
in collaboration with
the Institute of Terrestrial Ecology (NERC)
the International Union for Conservation of Nature and Natural Resources
the Joint Committee for the Conservation of British Insects
the Nature Conservancy Council and
the Royal Society for Nature Conservation

1987

COLEOPTERA

The Beetles

The Coleoptera are one of the largest orders, numbering some 3900 species in Britain, divided among 97 families. They are also one of the better-studied groups, following only the Lepidoptera in popularity. The group is very diverse, with a number of well-defined taxonomic subdivisions and habitat groupings encouraging the enthusiast to specialise. The majority of species require the assistance of at least a hand lens for identification, and in many cases it is necessary to examine specimens more closely under a microscope. Some groups require expert assistance.

Although most beetle groups are relatively well-recorded they are not adequately covered in the more popular literature, and it was thought worth considering them in some detail in the present work. Consequently, half the species accounts included here concern the Coleoptera: the Red Data Book lists 142 Endangered, 84 Vulnerable and 266 Rare species. At least ten of the Endangered species are believed to be extinct, and a further 54 species are listed in the Appendix as having become extinct before 1900. Four of the six Category 5 (Endemic) species are also listed in one of the threatened categories. One species, the "Rainbow Leaf Beetle" *Chrysolina cerealis*, is on Schedule 5 of the Wildlife and Countryside Act 1981. 21 of the Rare species are designated as Category 3* (recently discovered or recognised), including ten aquatic species. Altogether 546 species are listed, amounting to 14% of the British beetle fauna.

Beetles occur in all habitats, but of the Endangered and Vulnerable species the most important ones are woodlands (40%), coastal situations (21%), wetlands (19%) and grasslands (11%). Ancient woodlands are perhaps the most important and most vulnerable single habitat for RDB species in Britain. About 90 Endangered and Vulnerable beetles are confined to this habitat, representing a fifth of species of all orders described in these accounts. Semi-natural woodlands are continually being clear-felled and lost to farmland or coniferous plantation. Even when maintained as broadleaved woodland they are frequently replaced by large stands of uniform age and species structure. Dead wood is a very valuable commodity for many beetles and is much threatened by the 'tidying-up' of forests and the removal of over-mature trees and dead and fallen timber. Many species are extremely localised: a glance through these pages will reveal a number known only from such famous sites as the New Forest and Windsor Forest and Great Park, where ancient oaks with dead limbs and rotten centres provide a classic habitat. Species dependent on old pines are now confined to a few remnants of the ancient Caledonian pine forest in the Scottish Highlands. The mountain tops of that region provide another very special habitat, with three beetle species occurring only on very few peaks. The other habitats have been discussed under the preceding orders.

Though somewhat out of date, the only identification guide this century to attempt to cover all British species is Joy's two-volume *A practical handbook of British beetles* (1932, reprinted 1976). A number of families are covered by *Handbooks* in the RESL's series, though half of these are out of print. *Beetles of the British Isles*

(Linssen, 1961) provides a useful introduction, now also out of print. *A key to the families of British Coleoptera (and Strepsiptera)* was published recently in the Field Studies Council's AIDGAP series (Unwin, 1984). The very cheap but well-illustrated *A field guide in colour to beetles* (Harde, 1984, edited by Hammond) is a worthwhile purchase and covers many RDB species. The AES has published *A coleopterist's handbook* (Walsh & Dibb, 1974).

Fourteen BRC recording schemes cover several of the major beetle groups, some of them issuing regular newsletters. Revised distribution maps have appeared for the Elmidae (Holland, 1980). Preliminary atlases have been produced for the Carabidae (Luff, 1982) and are appearing for the aquatic species (Foster, 1981, 1983, 1984, 1985). Coleopterists can subscribe to *The Coleopterist's Newsletter*, and aquatic specialists can join the Balfour-Browne Club.

Omophron limbatum

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Omophron limbatum (F., 1777).

Identification Farrow & Lewis (1971); Lindroth (1974), p.18, figs 9 and 10; Harde (1984), fig. 89:9.

Distribution Only known from flooded gravel pits at Rye Harbour, East Sussex, and between Dungeness and Lydd, Kent. The population has been locally substantial in the past, but now appears to be much reduced. It could not be found at either site in 1982, though a small colony was located at Rye Harbour in 1983.

Habitat and ecology Adults on and in sand bordering flooded gravel pits.

Status Possibly indigenous in Britain in the 19th century, apparently now re-established from Europe.

Threats Infilling of gravel pits or construction of yacht moorings at the edge of lakes. Also the development of caravan sites around the gravel pits. The Lydd site has now been landscaped, and *O. limbatum* is no longer present.

Author M.L. Luff, using additional information from Allen (1971a), E. Philp (1973 and pers. comm.), and P. Hodge (pers. comm.).

Carabus intricatus

Blue Ground Beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Carabus intricatus L., 1761.

Identification Lindroth (1974), p.22; Harde (1984), fig.83:6.

Distribution Only recently recorded from Haldon Moor, Teignmouth, south Devon (1959), and Boconnoc Park, Lostwithiel, Cornwall (1972). Population presumably very small as the adult is the largest and one of the most conspicuous of British *Carabus* species.

Habitat and ecology In stumps and under the bark of old hardwood timber where a thick humus layer is present.

Status A relict population in extreme south-west Britain.

Threats The removal of old and dead hardwood timber.

Author M.L. Luff.

Dyschirius obscurus

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Dyschirius obscurus (Gyllenhal, 1827).

Identification Lindroth (1974), p.36; Shephard (1970).

Distribution Doubtful old records from Norfolk and Lancashire. Recently found at Rye Harbour, East Sussex (1969), Aylesford (1963), between Dungeness and Lydd, Kent (1970 to date), and Sheringham, Norfolk (1981). Population apparently substantial where it occurs. In 1982 it was present only in small numbers at the Lydd locality, and in good numbers at Aylesford.

Habitat and ecology In bare sand bordering standing water. Often found in company with *Omophron limbatum* (q.v.).

Status Possibly a recent introduction or reintroduction from Europe into south-east England.

Threats As for *Omophron limbatum*.

Author M.L. Luff, using additional information from E.G. Philp (1973 and pers. comm.) and G. Wildridge (pers. comm.).

Trechus rivularis

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Trechus (*Trechus*) *rivularis* (Gyllenhal, 1810).

Identification Lindroth (1974), p.45, fig.29e.

Distribution Originally restricted to Wicken Fen and Whittlesey Mere, Cambridgeshire. Recently also recorded from Lopham Fen, east Norfolk, and Askham Bog, North Yorkshire (1970s).

Habitat and ecology In litter in fens.

Status A fenland relict population.

Threats Fen drainage.

Conservation Wicken Fen is owned by the National Trust, Askham Bog is a reserve of the Yorkshire Wildlife Trust, and the Lopham Fen site is a reserve managed by the Suffolk Trust for Nature Conservation.

Author M.L. Luff, using additional information from Omer-Cooper *et al* (1928) and R.C. Welch (pers. comm.).

Trechus subnotatus

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Trechus (*Trechus*) *subnotatus* Dejean, 1831.

Identification Lindroth (1974), p.45.

Distribution South Devon and the Huddersfield area, West Yorkshire. Populations small in all localities.

Habitat and ecology In vegetable matter, soil and rubble. Mainly coastal.

Status Introduced, probably on more than one occasion; apparently established but not spreading.

Threats The Devon site is threatened by the dumping of refuse.

Author M.L. Luff, using additional information from P. Hodge and M. Denton (pers. comms).

Bembidion humerale

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Bembidion (*Bembidion*) *humerale* Sturm, 1825.

Identification Crossley & Norris (1976).

Distribution Only known from Thorne and Crowle Moors, South Yorkshire/Humberside. The population is possibly substantial as the species is widespread and locally abundant at the site.

Habitat and ecology Adults are found on peat in fens. It is most abundant where the peat is moist and largely bare of vegetation, such as damp hollows left after cutting operations.

Status Probably a relict population which has increased in numbers. There is a 1983 record by P.S. Kendall from Hatfield Moor, about 10km south of Thorne Moor (R.S. Key, pers. comm.).

Threats Drainage of the site. Also the destruction of habitat by the commercial extraction of peat.

Conservation Part of 'Thorne and Crowle Waste' is now an NNR, and the remainder of it is an SSSI. The reserve area, however, is mostly densely vegetated and is not the most suitable habitat for the species.

Author M.L. Luff, using additional information from R. Crossley (pers. comm.).

Bembidion virens

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Bembidion (*Plataphus*) *virens* Gyllenhal, 1827.

Identification Lindroth (1974), p.61, fig.35e.

Distribution Almost restricted to the shore of Loch Maree, Ross & Cromarty (Highland), where it was found as recently as 1976. There is an old record (Doncaster Museum) from Mallaig, Lochaber. Recently also found at Strath Oykel in Sutherland (Owen, 1984).

Habitat and ecology In shingle by lakes and estuaries.

Status A relict population.

Threats Possible disturbance such as the extraction of shingle for building material.

Author M.L. Luff.

Pterostichus aterrimus

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Pterostichus (*Omaseus*) *aterrimus* (Herbst, 1784).

Identification Lindroth (1974), p.71, fig.46b.

Distribution Originally restricted to the fens of East Anglia but not recorded there since 1910. Found from 1969 to 1973 in a formerly marshy area south of Denny Wood in the New Forest, Hampshire. Population probably small; the species has not been found since 1973.

Habitat and ecology In wet bogs and fens at the edge of water on muddy or peaty soils.

Status A relict fen population, recently spread or introduced to the New Forest.

Threats Drainage of fens.

Conservation The 1969 site has been drained, but adjacent areas are protected at the moment.

Author M.L. Luff, using additional information from D. Appleton (1970 and pers. comm.).

Agonum sahlbergi

A ground beetle — **ENDANGERED +**

Order **Coleoptera** — Family **Carabidae**

Agonum sahlbergi (Chaudoir, 1850).

Identification Lindroth (1974), p.83. Dark specimens of *A. muelleri* Herbst may be misidentified as *A. sahlbergi*.

Distribution Only known from "R. Clyde below Glasgow". No British records since 1914; presumed now extinct.

Status A former glacial relict, or introduction.

Author M.L. Luff, using additional information from Lindroth (1960).

Amara fusca

A ground beetle — **VULNERABLE**

Order **Coleoptera** — Family **Carabidae**

Amara fusca Dejean, 1828.

Identification Lindroth (1974), p.93.

Distribution Restricted to a few localities, mainly in the extreme south-east of England. The most recent record is from Swanley, Kent (1942). Population small, at most.

Habitat and ecology On dry sand or gravel with sparse vegetation.

Status At the north-western limit of its range; possibly extinct in Britain.

Threats Urbanisation and habitat disturbance by man.

Author M.L. Luff.

Harpalus cupreus

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Harpalus (*Harpalus*) *cupreus* Dejean, 1829.

Identification Lindroth (1974), p.104.

Distribution Known in Britain only from a field at Sandown, Isle of Wight. The latest recorded capture was in 1914. The population is probably small as it is a conspicuous species.

Habitat and ecology Found in agricultural situations on dry soils.

Status Probably introduced in the late 19th century. Possibly now extinct.

Author M.L. Luff.

Harpalus honestus

A ground beetle — **ENDANGERED +**

Order **Coleoptera** — Family **Carabidae**

Harpalus (*Harpalus*) *honestus* (Duftschmid, 1812).

Identification Allen (1964c); Lindroth (1974), p.104, fig.73d.

Distribution On chalk hills at Streatley, Berkshire (1905); not recorded since. Also old records (ca.1795) from Charlton, north Kent. Possibly now extinct, as it is a conspicuous species.

Habitat and ecology Found in chalk pits.

Status Presumed extinct.

Author M.L. Luff.

Scybalicus oblongiusculus

A ground beetle — **ENDANGERED +**

Order **Coleoptera** — Family **Carabidae**

Scybalicus oblongiusculus (Dejean, 1829).

Identification Lindroth (1974), p.109, fig.77d.

Distribution Southern England, mainly Dorset: only Weymouth and Ringstead since 1900, but not found since 1926.

Habitat and ecology In chalk grassland, usually under stones.

Status A former introduction, now presumed extinct.

Author M.L. Luff.

Acupalpus elegans

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Acupalpus elegans (Dejean, 1829).

Identification Lindroth (1974), p.116, figs 82c and 84a.

Distribution Kent, Essex, Hampshire and Yorkshire. The only recent records are from Stoke Junction, north Kent, and Barton Cliffs, south Hampshire. Population presumed small.

Habitat and ecology In coastal saltmarshes and wet flushes.

Status Isolated relict populations.

Threats The destruction of habitat.

Author M.L. Luff, using additional information from L.S. Whicher and A.B. Drane (pers. comms).

Panagaeus cruxmajor

A ground beetle **VULNERABLE**

Order **Coleoptera** Family **Carabidae**

Panagaeus cruxmajor (L., 1758).

Identification Lindroth (1974), p.120, figs. 88a and 88b; Harde (1984), fig.107:5.

Distribution Formerly as far north as Yorkshire in suitable habitats. Now restricted to Wicken Fen, although it has not been found there for some years.

Habitat and ecology At the edge of standing water, with a soft soil and rich vegetation.

Status Relict.

Threats Fen drainage.

Conservation Wicken Fen is a property of the National Trust.

Author M.L. Luff.

Chlaenius nitidulus

A ground beetle **ENDANGERED**

Order **Coleoptera** Family **Carabidae**

Chlaenius nitidulus (Schrank, 1781).

Identification Lindroth (1974), p.122, fig.89d; Harde (1984), fig.105:9.

Distribution Restricted to a few sites on the coast in Dorset (Charmouth), the Isle of Wight and Sussex. Not recorded since 1930. The population is very small, if indeed it is not extinct.

Habitat and ecology In vegetation in damp places on the coast.

Status At the northern limit of its distribution, possibly now extinct in Britain.

Author M.L. Luff.

Chlaenius tristis

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Chlaenius tristis (Schaller, 1783).

Identification Lindroth (1974), p.121, fig.89b.

Distribution There are old records from the Fens, but it was believed extinct in Britain until a single specimen was recorded from Cors Geirch, Lleyn Peninsula, Gwynedd (1970s). The population is probably small, as only one specimen was found in an extensive survey.

Habitat and ecology In bogs and fens.

Status An isolated relict population.

Threats The drainage of wetland.

Conservation Cors Geirch is an NNR.

Author M.L. Luff, using additional information from A. Warne (pers. comm.).

Callistus lunatus

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Callistus lunatus (F., 1775).

Identification Lindroth (1974), p.122; Harde (1984), fig.107:1.

Distribution Found locally on chalk downland in Kent (Wye, Shoreham, Otford Downs), Surrey (Mickleham, Coulsdon, Chipstead, Reigate) and Berkshire (Streatley). It has declined since the 1930s and the most recent record is Shoreham, west Kent (1953), despite extensive subsequent searching for the species. A 'probable' individual was seen at Juniper Bottom, Box Hill, in 1983. For map see Luff (1982), map 91. Population small, at most.

Habitat and ecology On chalk grassland and in chalk pits.

Status At the northern limit of its range, possibly now extinct in Britain.

Threats Reduction in open chalk grassland; possibly human interference.

Conservation Juniper Bottom is a property of the National Trust.

Author M.L. Luff, using additional information from A.A. Allen and K.N.A. Alexander (pers. comms).

Lebia cruxminor

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Lebia cruxminor (L., 1758).

Identification Lindroth (1974), p.126.

Distribution Formerly very rare but widespread; the only post-1970 records are from Bodmin Moor, Cornwall, and Ditchling Common, East Sussex (1984). Usually only single specimens.

Habitat and ecology In damp meadows and woodland: the larva is ectoparasitic, probably on the leaf beetle *Galeruca tanaceti* L.

Status Relict, once more widespread.

Threats A reduction in the range or abundance of the leaf beetle host, though this feeds on a wide variety of plants.

Author M.L. Luff.

Dromius longiceps

A ground beetle — **VULNERABLE**

Order **Coleoptera** — Family **Carabidae**

Dromius longiceps Dejean, 1826.

Identification Lindroth (1974), p.128, fig.94a.

Distribution Restricted to fens and coastal localities in eastern England: Shirebrook, Sheffield, South Yorkshire; Blacktoft Sands, North Ferriby, Swinefleet and Brough, Humberside; Swaby, Lincolnshire; Tuddenham, Suffolk; Wicken Fen, Cambridgeshire; and Wheatfen and Hickling Broads, Norfolk. Isolated small populations.

Habitat and ecology In fens with reed *Phragmites*. The larvae have been found in reed stems.

Status A relict fenland species.

Threats Drainage of fens. The Shirebrook site is threatened with damage from road construction.

Conservation Hickling Broad is an NNR; Wicken Fen is owned by the National Trust; Blacktoft Sands is a reserve of the RSPB.

Author M.L. Luff, with additional information from Sheffield City Museum.

Dromius sigma

A ground beetle — **VULNERABLE**

Order **Coleoptera** — Family **Carabidae**

Dromius sigma (Rossi, 1790).

Identification Lindroth (1972); Lindroth (1974), p.130, fig.95a.

Distribution Recently only in Yorkshire: Askham Bog, Inkle Moor and Elland gravel pits. Formerly also from the Norfolk Broads and Thames Marshes.

Habitat and ecology In shaded situations in fens and marshes.

Status Probably a relict.

Threats Drainage of sites. Inkle Moor is threatened by colliery tipping.

Conservation Askham Bog is a reserve of the Yorkshire Wildlife Trust.

Author M.L. Luff, using additional information from P. Hodge, R.S. Key and M. Denton (pers. comms).

Polystichus connexus

A ground beetle — **VULNERABLE**

Order **Coleoptera** — Family **Carabidae**

Polystichus connexus (Fourcroy, 1785).

Identification Lindroth (1974), p.133, fig.96c.

Distribution Mostly coastal in extreme south and south-east England. All post-1970 records are from the coasts of Kent, Essex and Sussex. Populations are probably very localised and small.

Habitat and ecology On the coast and on river banks, in cracks in bare soil and at the base of cliffs.

Status At the northern limit of its range and apparently declining in abundance.

Threats Human disturbance to coastal sites.

Author M.L. Luff.

Drypta dentata

A ground beetle — **ENDANGERED**

Order **Coleoptera** — Family **Carabidae**

Drypta dentata (Rossi, 1790).

Identification Lindroth (1974), p.133.

Distribution Restricted to the extreme south coast of England from Dorset to Kent. The only recent locality is Brownsea Island, Poole Harbour, 1977. Population small.

Habitat and ecology On shady coastal silt or sand.

Status Relict, and may be extinct.

Threats Coastal development and public usage.

Conservation Brownsea Island is a property of the National Trust.

Author M.L. Luff, using additional information from M. Speight (pers. comm.).

Haliplus furcatus

A water beetle — **ENDANGERED**

Order **Coleoptera** — Family **Haliplidae**

Haliplus furcatus Seidlitz, 1887.

Identification Balfour-Browne (1940), pp.144-146; Balfour-Browne (1953), p.8, figs 11h and 14b.

Distribution Exclusively from Somerset in brick pits and drains near Burnham-on-Sea and Bridgwater. It has been "common" in the Bridgwater locality. For map see Foster (1981), p.5.

Habitat and ecology Stagnant open fresh water on low ground. Holmen (1981) indicates an association with small, temporary pools in Denmark.

Status The first record was in 1916 and the last in 1939. Publicity in *Balfour-Browne Club Newsletter* No.9 (1978) failed to elicit further records. Extensive collecting at Bridgwater in 1978 and 1979 by P.J. Hodge, J.A. Owen and G.N. Foster was unsuccessful; various surveys of the Levels in 1979-81 were also unsuccessful.

Threats There are no records for the Somerset Levels proper so it would appear that the most likely explanation for its loss lies in encroachment of vegetation, mainly reed *Phragmites australis*, over the man-made, open habitats once available.

Author G.N. Foster.

Laccophilus obsoletus

A water beetle — **VULNERABLE**

Order **Coleoptera** — Family **Dytiscidae**

Laccophilus obsoletus Westhoff, 1881, formerly known as *L. variegatus* (Germar, 1817).

Identification Balfour-Browne (1940), pp.181-182; Balfour-Browne (1953), p.19.

Distribution In south-east England and the Humber valley, with modern records only for the Lewes Levels, East Sussex. Small isolated populations. For map see Foster (1981), p.11.

Habitat and ecology Freshwater and weakly saline drains in lowland fens, not exclusive to grazing fen.

Status There are old records for south-east Yorkshire, east Kent, East and West Sussex and south Hampshire. There are few substantiated modern records. The beetle was rediscovered on Thorne Waste (South Yorkshire) in the 1950s. There is a single record from Canterbury (Kent) in 1958, and a single record for the Pevensey Levels (East Sussex) in 1972. The only site with a number of modern records is the northern end of the Lewes Levels.

Threats Change from mixed farming to arable farming. Construction of the Lewes bypass appeared to improve the status of this species in cleared dykes for a while, and indicates the importance of dyke management in sustaining this beetle.

Conservation One of the older sites, Thorne Waste, is an NNR, and another old site, Pevensey Levels, is partly an SSSI. The northern end of the Lewes Levels is not at present notified as an SSSI.

Author G.N. Foster, using additional information from Bunting (1955), Hodge (1978), and J.H. Flint and J.A. Owen (pers. comms).

Bidessus unistriatus

A water beetle — **ENDANGERED**

Order **Coleoptera** — Family **Dytiscidae**

Bidessus unistriatus (Schrank, 1781).

Identification Balfour-Browne (1940), pp.189-191; Balfour-Browne (1953), p.13, fig. 20c; Harde (1984), fig. 111:5.

Distribution Dorset, south Hampshire, Greater London, Cambridgeshire, Norfolk, east Suffolk and East Sussex. For map see Foster (1981), p.15. Rarely classed as "common".

Habitat and ecology Fen conditions, including slightly brackish water, in drains, man-made ponds, duneslack ponds, etc.

Status Apart from Catfield Fen, east Norfolk, where specimens were found in 1977 and 1978, the last known site was at Camber in 1947, other records being for the 19th century and the early 20th century.

Threats The decline in the major centre in the Norfolk Broads is probably due to a change in the method of managing dykes and in a loss of grazing fen with the expansion of arable farming. Losses from other sites may be due to disturbance and pollution, e.g. the development of Camber as a holiday centre (Foster, 1972).

Conservation Catfield Fen is part of an NCR Grade 1* SSSI (Ratcliffe, 1977), and the owner has been told of the presence of rare water beetles on the site.

Author G.N. Foster, using additional information from Foster (1982) and F. Balfour-Browne's card index in the Royal Scottish Museum.

Hydroporus rufifrons

A water beetle **VULNERABLE**

Order **Coleoptera** Family **Dytiscidae**

Hydroporus rufifrons (Mueller, 1776).

Identification Balfour-Browne (1940), pp.315-319; Balfour-Browne (1953), p.18, figs 25b and 28b.

Distribution Old records cover much of the eastern coastal counties from Essex to the Forth, with a new record from Epworth Turbary, Humberside. Western records run from Carmarthen to Argyll, with recent records only for the Lake District, Dumfries & Galloway, and Strath Orchy (Argyll). Early published records are unreliable owing to confusion in use of the name *H. piceus* Stephens. It is often extremely difficult to locate but can be abundant in the autumn. For map see Foster (1984), p.20.

Habitat and ecology Mainly found in temporary marshes in old oxbow systems, and, in the Lake District, in peat pools.

Status This species appeared to have died out in the eastern part of its range and some well-known western sites, e.g. Thurstonfield Lough, Cumbria, have also been thoroughly surveyed without finding it.

Threats Improvement, especially drainage, of riverside pasture and canalization of waterways.

Conservation Kenmure Holms is an SSSI. Other sites are not at present notified, and should be considered.

Author G.N. Foster, using additional information from Angus (1964), Maitland (1963), D. Bilton (pers. comm.), and the F. Balfour-Browne card index in the Royal Scottish Museum.

Hydroporus scalesianus

A water beetle — **VULNERABLE**

Order **Coleoptera** — Family **Dytiscidae**

Hydroporus scalesianus Stephens, 1828.

Identification

Balfour-Browne (1940), pp.281-285; Balfour-Browne (1953), p.17.

Distribution

England north to Co. Durham and Cumbria, with most records for Norfolk. It is often common but all populations are isolated. For map see Foster (1984), p.20.

Habitat and ecology

Relict habitats in fen and fen carr, and sometimes in peat bogs or in sedge beds at the edge of open water.

Status

There are old records for Yorkshire, Hertfordshire, south Hampshire and Norfolk, from which it was originally described. Modern records are for Hart Bog in Co. Durham, Biglands Bog in Cumbria, Catfield Fen, Myhills Marsh, East Walton Common, Thompson Common and ponds in the Stanford Training Area, all in Norfolk. The absence of this boreal flightless species from northern Britain can best be explained by it having been stranded in periglacial hollows on the edge of the last glacial advance.

Threats

Any form of drainage eliminates this species. According to the subfossil record in Flandrian deposits in Somerset, this species can, however, survive through the hydroseral succession in a range of habitats. This diversity of habitats is seen in modern populations in Norfolk. Disturbance is the key factor.

Conservation

Most sites are scheduled or are known for their entomological interest. Myhills Marsh is part of Hickling Broad NNR, and Thompson Common is now a Norfolk Naturalists' Trust reserve. Biglands Bog is a reserve of the Cumbria Trust for Nature Conservation but is subject to pollution from farm effluent. The presence of rare aquatic insects should be taken into account when notifying the remaining sites, and management agreements should be considered for the Stanford Training Area site and for Hart Bog SSSI.

Author

G.N. Foster, using additional information from Foster (1982), Horsfield & Foster (1982), Bilton (1984), and the 1982 Norfolk Survey.

Graptodytes flavipes

A water beetle — **VULNERABLE**

Order **Coleoptera** — Family **Dytiscidae**

Graptodytes flavipes (Olivier, 1795), formerly known as *Hydroporus flavipes* and wrongly known as *G. concinnus* (Stephens) in Continental Europe.

Identification Balfour-Browne (1940), pp.261-264; Balfour-Browne (1953), p.15.

Distribution Breeding centres in west Cornwall, Dorset and the New Forest, with singletons occasionally reported from Surrey and East Sussex. For map see Foster (1983), p.11. It can be abundant in temporary ponds.

Habitat and ecology Pools and slow-running water on heathland. Capable of flight.

Status Earlier in this century *G. flavipes* was known from Dyfed, most southern coastal counties and a few East Anglian fens. There are now ten post-1950 10km square records (compared with a total of 32 pre-1950 squares) for the Goonhilly Downs (Cornwall), the Purbeck area (Dorset), the New Forest (Hampshire), Bookham Common (Surrey) and Southease on the Lewes Levels (East Sussex).

Threats Loss of heathland habitats by the disturbance of tourism, urbanisation, nuclear power stations, etc., and intensification of agriculture.

Conservation Present on the Lizard NNR, Cornwall.

Author G.N. Foster, using additional information from Hodge (1979) and the records of L.E. Barnes, J. Blackburn, D.A. Cooling, D.E. Coombe, J. Cooter, A.P. Foster and G.N. Foster.

Agabus brunneus

A water beetle — **VULNERABLE**

Order **Coleoptera** — Family **Dytiscidae**

Agabus brunneus (F., 1798).

Identification Balfour-Browne (1950), pp.65-68; Balfour-Browne (1953), p.21.

Distribution Very localised within the New Forest area and west Cornwall. For map see Foster (1983), p.18.

Habitat and ecology In intermittent streams in base-poor areas. 'Semisubterranean'.

Status There are records for west Cornwall, south Devon, south Wiltshire and south Hampshire. The only recent records are for Gwithian in 1981 and Porthtowan in the 1960s (but not in the 1981 survey) in Cornwall, and, in the New Forest area, Hamptworth (Wiltshire) in 1976 and Widden Bottom (Hampshire) in 1978. This is, however, a species for which collectors are reluctant to reveal their source, and there are probably other undisclosed records for the New Forest.

Threats Unknown – probably disturbance.

Author G.N. Foster, using additional information from Nash (1979), and the records of A. Eve, A. P. Foster, P. J. Hodge and D.R. Nash.

Agabus striolatus

A water beetle **VULNERABLE**

Order **Coleoptera** Family **Dytiscidae**

Agabus striolatus (Gyllenhal, 1808).

Identification Balfour-Browne (1950), pp.135-137; Balfour-Browne (1953), p.22; Foster (1982).

Distribution Exclusively from the Broadland of east Norfolk. The adults occur in extremely small numbers in spring and autumn.

Habitat and ecology Pits (tree-holes, etc.) in relict fen carr and wet woodland, drying out in summer.

Status Reported between 1839 and 1855 in the Horning area and rediscovered there and on the Ant and Bure Marshes and Hickling Broad in 1978-81. No other British records have been substantiated. This is a rare beetle throughout its range.

Threats The encroachment of carr onto old mowing fen around the Broads may explain the recent rediscovery of this species. Nevertheless the habitat is fragile, being subject to total drying-out on the one hand or loss in swamp woodland on the other, and also being easily disturbed or polluted.

Conservation The Woodbastwick Marshes sites are part of the Bure Marshes NNR, Myhills Marsh is part of Hickling Broad NNR, and the Barton Broad sites are in or near to the Norfolk Naturalists' Trust reserve. The Catfield Fen site is, with the Barton Broad area, part of an NCR Grade 1* SSSI (Ratcliffe, 1977). The owners and occupiers of most known sites have been notified of the presence of rare beetles and of the habitats that they prefer. Recognition of the national (and possibly international) importance of the beetle and its habitat should be included in reserve management plans.

Author G.N. Foster, using information from Foster (1982).

Agabus undulatus

A water beetle — **VULNERABLE**

Order **Coleoptera** — Family **Dytiscidae**

Agabus undulatus (Schrank, 1776).

Identification — Balfour-Browne (1950), pp.103-107; Balfour-Browne (1953), p.21.

Distribution — Gloucestershire, the Vale of York, the Cambridgeshire Fens, and the Breckland. For map see Foster (1983), p.21.

Habitat and ecology — Eutrophic fens in drains and sedge beds, and neighbouring clay ponds with rich vegetation. Flightless.

Status — This used to be an uncommon species found in much of England, and is too distinct and easily caught to have escaped attention recently. It is now confined to the northern part of its earlier range at Sandhurst (Gloucestershire), to Askham Bog (North Yorkshire) and neighbouring ponds at Aldersyde, Fulford and Melbourne, to Woodwalton and Wicken Fens (Cambridgeshire) and nearby ponds, and to ponds in west Norfolk.

Threats — This is a relict species, but, unlike several fen rarities, it is able to survive in man-made habitats occupying the primary site. The destruction of fen habitats must nevertheless explain the contraction of its range.

Conservation — Wicken Fen is National Trust property and is managed as a nature reserve, Woodwalton Fen is an NNR, Askham Bog is a Yorkshire Wildlife Trust reserve and Sandhurst is a reserve of the Gloucestershire Trust for Nature Conservation. Many of the best sites lie just outside existing reserves (so far as their boundaries are known), and extension of the existing reserves is therefore desirable.

Author — G. N. Foster, using additional information from Palmer (1981) and Atty (1983) and the records of D. Barnes, G.N. Foster and N. G. Webb.

Rhantus aberratus

A water beetle — **ENDANGERED +**

Order **Coleoptera** — Family **Dytiscidae**

Rhantus aberratus Gemminger & von Harold, 1868. Formerly known as *Rantus adspersus* (F.), and referred to on the Continent as *Rhantus bistriatus* (Bergstraesser).

Identification Balfour-Browne (1953), p.26, figs. 40f and 41b. Balfour-Browne (1950, pp.239-243) misleadingly indicated that this species could only be confused with *R. exsoletus* (Forster); in the field it resembles *R. bistriatus* (= *R. suturellus* (Harris)).

Distribution Exclusively from East Anglia (Cambridgeshire, south Essex and east Norfolk). Only one caught this century.

Habitat and ecology The previous distribution in Britain suggests an association with meres, Continental records being for fens and drains in peat bogs.

Status The last specimen was found in September 1904 at Potter Heigham, Norfolk. Extensive surveys of grazing fen drains in the area in the 1980s (e.g. by R.J. Driscoll) were unsuccessful. Possibly extinct.

Threats Possibly reduced near to extinction by drainage of the East Anglian meres, mainly in the 1830s.

Author G.N. Foster, using additional information from Driscoll (1978).

Graphoderus bilineatus

A water beetle — **ENDANGERED +**

Order **Coleoptera** — Family **Dytiscidae**

Graphoderus bilineatus (Degeer, 1774).

Identification Angus (1976). No formal publication in English exists.

Distribution Exclusively from Catfield Fen, east Norfolk, where it used to occur in small numbers.

Habitat and ecology Fen drains, possibly in deep water. The larvae are pelagic. Studies in Switzerland (Brancucci, 1980) suggest that populations are extremely localised and sedentary.

Status Detected by Angus (1976) in a series of *G. cinereus* (L.) which was collected by F. Balfour-Browne and T.H. Beare at Catfield Fen between 1904 and 1906. It is actually an easily recognised species which should have been detected in recent surveys of grazing fen areas of the east Norfolk Broadland, where it seems to have been replaced by *Hydaticus* species. Possibly extinct. A rare species throughout its range.

Threats Possibly reduced to extinction by drainage of the East Anglian meres (although there are no authenticated 19th century records).

Author G.N. Foster.

Graphoderus zonatus

A water beetle — **ENDANGERED**

Order **Coleoptera** — Family **Dytiscidae**

Graphoderus zonatus (Hoppe, 1795). Formerly misidentified as *Graphoderus cinereus* (L.), which is included here as a Rare species.

Identification Angus (1976). No formal publication in English exists.

Distribution Exclusively from Woolmer Bog, north Hampshire, where it is sometimes common.

Habitat and ecology Open water in peat bogs. The larvae are pelagic.

Status First reported from the site (as *G. cinereus*) by Allen (1953). Gilbert White (1789) described the site as a sandy-bottomed lake, and Balfour-Browne (1940) reported that in 1938 the site was covered with a thin layer of peat and that the water level could no longer be maintained during summer. *G. zonatus* may have colonised the site when it became suitable in the 20th century; on the other hand, Ratcliffe (1977) indicated a possible origin as a peat-cutting and *G. zonatus* may be relict. The species was last reported in 1984.

Threats Ratcliffe (1977, 2:168) reported possible loss of this species (owing to the use of insecticides to control mosquitoes). Other military operations seem to have had no effect either, but the general drop in water level and loss of open water habitat are more important.

Conservation The presence of the species is known to the wildlife management group reporting to the Ministry of Defence. Pond construction at the site may have been beneficial to this species. The site is an NCR Grade 1 SSSI (Ratcliffe, 1977). Open water habitat must be maintained.

Author G.N. Foster, using additional information from R.B. Angus, B. Barns and F.D. Goodliffe.

Spercheus emarginatus

A water beetle — **ENDANGERED**

Order **Coleoptera** — Family **Hydrophilidae**

Spercheus emarginatus (Schaller, 1783).

Identification Balfour-Browne (1958), pp.80-87.

Distribution In the 19th century it occurred in the eastern fens north to Askham Bog, North Yorkshire. Exclusively from east Suffolk this century. Often abundant when it occurs.

Habitat and ecology Eutrophic fens among emergent vegetation. Females carry egg cocoons in late spring, and the buoyant, black larvae complete their development in a fortnight, pupation taking 5-6 days.

Status The only reported find this century was at an unnamed site near Beccles in 1956 (Forster, 1956). Fens neighbouring Beccles have been drained (M. George, pers. comm.).

Threats Drainage and pollution of fens. Presumably the conversion of grazing fens to arable land would be detrimental but it seems that the construction of fen drains themselves last century was damaging.

Author G.N. Foster.

Helophorus laticollis

A water beetle — **VULNERABLE**

Order **Coleoptera** — Family **Hydrophilidae**

Helophorus laticollis Thomson, 1853.

Identification Angus (1971); Angus (1978).

Distribution Possibly confined to the New Forest now.

Habitat and ecology In temporary grassy pools in the spring.

Status It has been possible to show that records outside Dorset, south Hampshire and the Surrey heaths should refer to *H. strigifrons* Thomson. Angus (1971) suggested that it was a glacial relict in England and (1978) indicated that he knew of no records since the late 1960s for its last known stronghold in the New Forest.

Threats Loss of temporary wet heathland habitats.

Conservation Sites are within the New Forest conservation area.

Author G.N. Foster.

Paracymus aeneus

A water beetle — **ENDANGERED**

Order **Coleoptera** — Family **Hydrophilidae**

Paracymus aeneus (Germar, 1824).

Identification Joy (1932); Balfour-Browne (1958), pp.45-46.

Distribution Exclusively from Essex and the Isle of Wight. Usually common when it occurs.

Habitat and ecology Saltmarshes.

Status A survey of Essex sites by A.C. Warne failed to reveal this distinctive species, the only known site now being the mud flats at Bembridge (Isle of Wight) neighbouring a rubbish tip. The Bembridge site was discovered by J.L. Henderson in 1928 (not 1923 as stated by Balfour-Browne, 1958), rediscovered by D. Appleton in 1973 (Appleton, 1975), and reported still there by P.J. Hodge in 1983.

Threats Loss of saltmarsh habitat through rubbish disposal is the main threat to its last known site.

Conservation The Bembridge site is not an SSSI at present.

Author G.N. Foster.

Hydrochara caraboides

Lesser Silver Water Beetle **ENDANGERED**

Order **Coleoptera** Family **Hydrophilidae**

Hydrochara caraboides (L., 1758), formerly known as *Hydrous caraboides*.

Identification Balfour-Browne (1958), pp.10-14; Harde (1984), fig. 119:7.

Distribution Scattered records north to Askham Bog (North Yorkshire), with authenticated records in sufficient numbers to indicate breeding in the London Marshes, Somerset Levels and Cambridgeshire Fens. Unlike *Hydrophilus piceus* (L.), which fluctuates in adult numbers from site to site and year to year on the Somerset Levels, *H. caraboides* appears in small numbers as adults in undisturbed dykes each year.

Habitat and ecology Lowland fens in dykes with diverse emergent vegetation. The biology in Somerset has been studied by Mrs L. Brown and by A. Eve (unpublished). In France Maillard (1970) has published concerning egg cocoon construction. Dr Eve's difficulty in rearing larvae beyond the first instar suggests that snails are required for the diet as in *H. piceus* larvae.

Status The last report of numbers sufficient to indicate breeding outside Somerset was in 1938 at Woodwalton Fen (Cambridgeshire), the major centre having been the London Marshes in the 19th century. Reports for coastal sites in Lancashire and Wales have not been authenticated; it is possible that the species occurs undetected in such areas although this is becoming increasingly remote. The species is concentrated in the peat areas of the Somerset Levels around Westhay and Shapwick (see A.P. Foster, 1984).

Threats The disappearance of this species from all but one area of fenland is best explained by the intensification of drain management and the resulting disturbance. Drastic drain clearances using mechanical means or herbicides remove both *H. piceus* and *H. caraboides* but only the former species appears capable of recolonising cleared drains. Drains with reed *Phragmites australis* and ivy duckweed *Lemna trisulca*, such as now dominate Woodwalton Fen, are unsuitable for *H. caraboides*.

Conservation The only breeding area lies in and around Shapwick Heath NNR. Adults from Somerset could be introduced into sites in East Anglian fens, where there is suitable undisturbed vegetation and the opportunity to observe progress.

Author G.N. Foster, using additional information from A. Eve (pers. comm.).

Teretrius fabricii

ENDANGERED +

Order **Coleoptera** Family **Histeridae**

Teretrius fabricii Mazur, 1972, formerly known as *Teretrius picipes* (F.).

Identification Halstead (1963), p.9, figs 3 and 17.

Distribution In the late 19th century it was known from the London area, with isolated records from Bungay (Norfolk), Swansea (West Glamorgan) and Bristol (Avon).

Habitat and ecology Preys on the immature stages of *Lyctus brunneus* Stephens, *L. linearis* (Goeze) and other bostrichoid beetles.

Status Allen (1963) describes the *locus classicus* at Upper Norwood (West Sussex) where it was "taken freely from oak palings" in 1876-79 with another predator, the clerid beetle *Tilloidea unifasciatus* (F.). Allen was of the opinion that the last specimens were taken at Ashtead and Oxshott, Surrey, in 1907. It is most probably extinct in Britain.

Threats Although there has been a decline in *Lyctus* infestations since 1945 N.E. Hickin still regarded them as a substantial pest in 1963. The absence of this predator is, therefore, difficult to explain.

Author R.C. Welch.

Hypocaccus metallicus

VULNERABLE

Order **Coleoptera** Family **Histeridae**

Hypocaccus metallicus (Herbst, 1792).

Identification Halstead (1963), p.13, fig.31.

Distribution One pre-1925 record by A. Ford from Dorset. Most specimens are from Kent and East Sussex. Mablethorpe, Lincolnshire, is the most northerly locality.

Habitat and ecology In dung, carrion, etc., on coastal sandhills.

Status This species has apparently declined since the early part of this century. The British Museum (Natural History) collections contain specimens taken at Sandwich, Kent, in 1938 and Hunstanton, Norfolk, in 1946. It is usually common on the Camber Sandhills, Kent, and also occurs at Rye harbour, East Sussex (P.J. Hodge, pers. comm.).

Threats Public pressure, and changes in the land use of coastal sand dune systems.

Conservation The species could well be present on the LNR at Sandwich.

Author R.C. Welch.

Hypocaccus rugiceps

VULNERABLE

Order **Coleoptera** Family **Histeridae**

Hypocaccus rugiceps (Duftschmid, 1805).

Identification Halstead (1963), p.13; Harde (1984), fig. 121:8.

Distribution Apart from one pre-1925 record from Dorset by A. Ford and an old record by Fowler for Paisley (Strathclyde), all the rest are for the coastline from Wales to Cumbria.

Habitat and ecology In dung, carrion, etc., on coastal sandhills.

Status Although widely distributed in the past, the only recent records are from Cumbria in the 1960s. Angus (1964) between 1960 and 1963 found one at Drigg Sands and two at the north end of Walney Island. There is a specimen in the British Museum (Natural History) collected in 1968 from Sandscale Haws, just across a narrow channel from the Walney site. The species has been taken at Pembrey near Llanelli, Dyfed, in 1974 and 1982 (J.A. Owen, pers. comm.). Large numbers were found in a dead gull at Rhosneigr, Anglesey, in 1979 (R.S. Key, pers. comm.).

Threats Public pressure, urbanisation, and changes in the land use of coastal sand dunes.

Conservation The species may still be present in protected coastal reserves, e.g. Ainsdale Sand Dunes NNR. The Walney-Sandscale dunes are an NCR Grade 1 site (Ratcliffe, 1977).

Author R.C. Welch.

Paromalus parallele-pipedus

ENDANGERED

Order **Coleoptera** Family **Histeridae**

Paromalus parallelepipedus (Herbst, 1792). Formerly known as *Microlomalus parallelepipedus*.

Identification Halstead (1973), p.11, fig.22.

Distribution Only known in Britain from the New Forest, Hampshire, and from east Kent.

Habitat and ecology Under bark.

Status Fowler (1887-91, 3) mentions three or four specimens from the New Forest. Later (Fowler & Donisthorpe, 1913) he lists one more from Brockenhurst. Joy (1932) did not include this species and Halstead describes it as "very rare indeed". The only modern record is of one specimen taken from under bark in Pennipot Wood, Canterbury, Kent, by J.A. Parry in 1952 (Allen, 1971c).

Threats Not known, but the destruction of ancient trees and removal of dead wood may be contributory factors.

Conservation Nothing specific can be recommended, apart from measures to ensure a continuing succession of old trees and dead wood in the New Forest and in the Kent locality.

Author R.C. Welch.

Hister quadrimaculatus

VULNERABLE

Order **Coleoptera** Family **Histeridae**

Hister quadrimaculatus L., 1758.

Identification Halstead (1963), p.9; Harde (1984), fig. 123:7.

Distribution Southern England, mainly coastal localities from Weymouth (Dorset) to Clacton (Essex), with most specimens from Kent.

Habitat and ecology In dung, carrion, etc. Mainly from coastal sites, but not sand dunes.

Status This species is now very rare. The only recent record appears to be of a single specimen found under a stone in a field at Stoke, north Kent, by L.S. Whicher on 1 June 1952 (Whicher, 1952).

Author R.C. Welch.

Paralister obscurus

VULNERABLE

Order **Coleoptera** Family **Histeridae**

Paralister obscurus (Kugelann, 1792). Formerly known as *Margarinotus stercorarius* (Hoffmann).

Identification Halstead (1963), p.10, fig.12.

Distribution Scattered coastal localities in south-western counties, Wales and the Lancashire dune systems. There are old records for Netley (Hampshire) and Norfolk, and a very old, probably erroneous, London record.

Habitat and ecology In dung, chiefly among sandhills.

Status This species does not appear to have been recorded since the early part of this century.

Threats Public pressure and land use changes in coastal dune systems.

Conservation Former localities such as Braunton Burrows, Devon, and the Ainsdale area are now managed as NNRs.

Author R.C. Welch.

Ochthebius aeneus

A water beetle

ENDANGERED +

Order **Coleoptera** Family **Hydraenidae**

Ochthebius aeneus Stephens, 1835.

Identification Balfour-Browne (1958), pp.160-163. His idea that this is a habitat form of *O. minimus* (F.) is wrong (see d' Orchymont, 1952).

Distribution Oxfordshire, north Essex, Greater London, Surrey, south Hampshire, the Isle of Wight and possibly East Sussex, a Glamorgan record being incorrect. At one time abundant on heaths around London.

Habitat and ecology The precise habitat is not really known. *O. aeneus* was mainly found on lowland heath, sometimes in brackish water.

Status Possibly extinct. The last British record that can be authenticated is for a specimen from "The Salts, St. Leonards" in 1913; this was assigned to East Sussex by G.N. Foster (1972), but may well be referable to south Hampshire.

Threats Loss of wetland heath habitats in southern England.

Author G.N. Foster.

Ochthebius lenensis

A water beetle **VULNERABLE**

Order **Coleoptera** Family **Hydraenidae**

Ochthebius lenensis Poppius, 1907.

Identification Balfour-Browne (1958), p.164.

Distribution The Dornoch and Moray Firths, where it is often in large numbers and to the exclusion of other beetles.

Habitat and ecology Grassy pools in merse.

Status First discovered at Tain, Ross & Cromarty, in 1939, with records in 1950s for Tain and Redcastle (Ross & Cromarty), Kirkhill (Inverness), and Findhorn Bay and Lossiemouth (Moray). The most recent record is for Ardersier (Inverness) in 1979.

Threats Oil-related developments, major oil spillages and oil spillage treatments. Also a possible barrage/reclamation scheme in the Moray Firth.

Author G.N. Foster, using additional information from J.A. Owen and J. Parry (pers. comms).

Hydraena palustris

A water beetle **VULNERABLE**

Order **Coleoptera** Family **Hydraenidae**

Hydraena palustris Erichson, 1837.

Identification Balfour-Browne (1958), pp.183-186.

Distribution Norfolk only. Isolated populations at low densities.

Habitat and ecology Mossy swamps in eutrophic/mesotrophic fens.

Status *H. palustris* appears to have died out at Wicken Fen, Sutton Broad Fen and Askham Bog. The beetle is a relict species surviving in three 'pingo'-like systems of periglacial hollows in west Norfolk, in a peat cutting/marl pond in the Stanford Training Area, and at Catfield Fen in east Norfolk.

Threats Disturbance of relict sites. The encroachment of carr into open mossy areas such as mowing fen.

Conservation Catfield Fen is part of an NCR Grade 1* SSSI (Ratcliffe, 1977), and Thompson Common is a Norfolk Naturalists' Trust nature reserve. The occupiers of two other sites have been notified of the sites' entomological interest. Management agreements should include the control of carr.

Author G.N. Foster; see also Palmer (1981).

Ptilium affine

ENDANGERED

Order **Coleoptera** Family **Ptiliidae**

Ptilium (*Ptilium*) *affine* Erichson, 1845.

Identification Joy (1932), pp. 571-574.

Distribution Only known this century from Wicken Fen (Cambridgeshire), where it is present in very low numbers.

Habitat and ecology Fowler (1887-91, 3:132) states that "it appears to be found under dung", although this is unlikely. It has more recently been found in sedge litter.

Status Fowler describes how three examples had been swept at Wicken Fen. He also "received two specimens from the south of England" (locality unknown). Omer-Cooper & Tottenham (1932) only give Fowler's record. C. Johnson (pers. comm.) has retaken it at Wicken Fen in the 1970s by sieving sedge refuse.

Threats Lowering of water table in fenland.

Conservation The site is managed by the National Trust to maintain fenland conditions.

Author R. C. Welch.

Micridium halidaii

ENDANGERED

Order **Coleoptera** Family **Ptiliidae**

Micridium halidaii (Matthews, 1869), formerly known as *Ptilium halidayi*.

Identification Joy (1932), pp. 571-574.

Distribution Only found as single specimens from three localities, Sherwood Forest (Nottinghamshire), Richmond Park (London) and Windsor Forest (Berkshire).

Habitat and ecology Under bark or in heart rot of ancient oaks *Quercus*, probably associated with the mycelia of the bracket fungus *Polyporus sulphureus*.

Status Originally recorded in June 1867 when A. Matthews (1868) found a single specimen under the bark of a dead oak in Sherwood Forest. C. Johnson has retaken the species in the Forest at Birklands in 1977. In May 1980 J. A. Owen (1981) found a specimen in the rotten wood from inside a hollow but living ancient oak tree in Windsor Forest, and has also recorded it recently (1984, pers. comm.) from Richmond Park.

Threats Loss of ancient oaks and lack of suitably-aged replacement trees.

Conservation Forest authorities have been made aware of the value of retaining dead and dying oaks in ancient forest.

Author R. C. Welch, using additional information from Carr (1916), p.324.

Microptilium palustre

ENDANGERED

Order **Coleoptera** Family **Ptiliidae**

Microptilium palustre Kuntzen, 1914.

Identification C. Besuchet & E. Sundt *in* Freude, Harde & Lohse (1964-83), 3:328.

Distribution Only known from Wicken Sedge Fen, Cambridgeshire. A rare species on the Continent recorded from Denmark to Spain.

Habitat and ecology Found in sedge refuse at Wicken. A marshland species on the Continent. Biology unknown.

Status Found "in good numbers" by C. Johnson in 1977.

Conservation The only known British locality is owned and managed by the National Trust.

Author R. C. Welch.

Microptilium pulchellum

ENDANGERED

Order **Coleoptera** Family **Ptiliidae**

Microptilium pulchellum (Allibert, 1844).

Identification Joy (1932), pp.568-569.

Distribution Only known from Bradfield (Berkshire) and Earith (Cambridgeshire).

Habitat and ecology Possibly a marshland species in Britain as it is on the Continent.

Status Fowler (1887-91, 3:128) states that two specimens were taken by G. B. Waterhouse but he did not know in what locality. N. H. Joy (Fowler & Donisthorpe, 1913) recorded *M. pulchellum* in grass tufts from the edge of a pond at Bradfield, Berkshire. This locality was searched by C. Johnson and the species was thought by him to be extinct by the 1970s. On 18 May 1980 J. A. Owen (pers. comm.) found a few specimens by sieving litter at the edge of an old gravel pit near Earith, Cambridgeshire, and C. Johnson collected more specimens there in 1981.

Author R. C. Welch.

Ptinella limbata — ENDANGERED

Order **Coleoptera** — Family **Ptiliidae**

Ptinella limbata (Heer, 1841).

Identification Freude, Harde & Lohse (1964-83), 3:329-330; Joy (1932), pp.568-569.

Distribution 19th century records for major ancient forest areas: Sherwood (Nottinghamshire), Forest of Dean (Gloucestershire), Cannock Chase (Staffordshire), and the New Forest (Hampshire); there are more recent records from Oxfordshire, Berkshire, Cambridgeshire and Inverness District (Highland).

Habitat and ecology Under the bark of both deciduous and coniferous trees.

Status There is some uncertainty over published records of *Ptinella* species. C. Johnson (1975) described two species new to the British list: *P. errabunda* Johnson (the earliest specimen dating from 1925 although the species is now widespread and very common) and *P. cavelli* (Broun) (dating from 1936), both believed to be recent introductions, possibly from New Zealand. It may be that older records of *P. limbata* are correct. Fowler (1887-91, 3:110-111) reports how A. Matthews found it in abundance under the bark of a dead beech in Sherwood Forest; Mr Blatch also took it there and in the Forest of Dean and in Cannock Chase. Joy (1932) lists it as very rare in Oxfordshire, Berkshire and Cambridgeshire. There is an old Sharp specimen from the New Forest but this species was not recorded by A. Williams and E. A. Gardner during their late-1960s survey of the Forest. C. Johnson (pers. comm.) believes that it may be extinct in England but found it recently under the bark of dead trees at Guisachan, Inverness.

Author R. C. Welch.

Aglyptinus agathidioides

ENDANGERED

Order **Coleoptera** Family **Leiodidae**

Aglyptinus agathidioides Blair, 1930. Also listed in Category 5 (Endemic).

Identification Blair (1930).

Distribution An endemic species only known from one male and one female collected at Potters Bar, Hertfordshire, by E. C. Bedwell on 14 April 1912.

Habitat and ecology The only specimens were obtained from the nest of a moorhen *Gallinula chloropus*.

Status Unknown. No specific search of the type locality has been undertaken. A number of coleopterists have searched moorhen nests but all of these, and recent examination of the nests of moorhens and mute swans in Cambridgeshire and Northamptonshire, have proved unsuccessful. Probably not a nidicolous species, more likely to be associated with reed litter.

Author R. C. Welch, using additional information from Donisthorpe (1931) and Donisthorpe & Walker (1931, p.40).

Silpha carinata

A carrion beetle

ENDANGERED

Order **Coleoptera** Family **Silphidae**

Silpha carinata Herbst, 1783, formerly known as *Silpha griesbachiana* Stephens.

Identification Nash (1975, 1977).

Distribution Recent records are from three adjacent 1km grid squares near Salisbury, Wiltshire. There is an old record from Winchester, Hampshire (Stephens, 1827-35, 3:26; 1839, p.115). The population is small and extremely localised.

Habitat and ecology The first British records of *S. carinata* were from carcasses, but recent specimens have been found in a heap of damp straw, in moss and under a stone, all at the margin of deciduous woodland. Adults were attracted to dead fish in baited pitfall traps and in experiments were fed on a variety of plant and dead animal material. Teneral adults and larval exuviae found in August 1976 and other adults found in April suggest that *S. carinata* overwinters as an adult (Nash, 1977).

Status In five visits over a three-year period from April 1974 to April 1977 D. R. Nash found fifteen specimens of *S. carinata* in one very local area (four of these were caught in pitfall traps baited with dead fish). The only previous record of *S. carinata* in Britain is "Carcases, Winchester: 6" (Stephens, 1839). Elsewhere he states "Winchester Mr A. Griesbach. The only specimen I have yet seen: it is in the collection of the British Museum" (Stephens, 1827-35). Neither this nor any of the other Winchester specimens appear to be extant in British collections.

Author R. C. Welch.

Eutheia formicetorum

VULNERABLE

Order **Coleoptera** Family **Scydmaenidae**

Eutheia formicetorum Reitter, 1881.

Identification Easily confused with other *Eutheia* species: specialist identification is necessary. C. Besuchet *in* Freude, Harde & Lohse (1964-83), 3:273-274; Allen (1969c), pp.239-240.

Distribution Known from Windsor Forest (Berkshire), the New Forest (Hampshire), and Prattle Wood (Oxfordshire). The population is probably small and localised.

Habitat and ecology The decaying wood of old trees, including oak *Quercus* and beech *Fagus*. Probably a predator of mites. Adults have been collected in Britain in April and June-August.

Status Probably near the northern limit of its overall range in southern England. Apparently restricted to ancient forest areas in the south, for which there is a total of about 13 records. Small (1.2 mm) and easily overlooked. There are records from the New Forest (1912), Prattle Wood (1915) and Windsor Forest (1942). J. A. Owen (pers. comm.) took a specimen at the last locality in June 1982.

Threats Any threat to areas of ancient forest. The removal of dead timber.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Eutheia linearis

ENDANGERED

Order **Coleoptera** Family **Scydmaenidae**

Eutheia linearis Mulsant, 1861.

Identification Easily confused with other *Eutheia* species: specialist identification is necessary. C. Besuchet *in* Freude, Harde & Lohse (1964-83), 3:273-274; Allen (1969c), pp.239-240.

Distribution Known from Sherwood Forest (Nottinghamshire), Windsor Forest (Berkshire), the New Forest (Hampshire) and "Frome Wood". Also recorded (Brown & Crowson, 1980) from Rowardennan, Stirling (Central), but the author of this entry has had no opportunity to confirm this record. The population is probably small and localised.

Habitat and ecology Under the bark of dead and dying wood, especially of mature oaks *Quercus*. Probably a predator of mites. Adults have been collected in Britain in April, May, July and October. Larvae, possibly of this species, have been collected in June.

Status Apparently more or less restricted to old oak forests. Small (1.25 mm) and easily overlooked. Probably still present in some of the ancient forests of England, for which there are about 12 records in all, but there are no recent records. The most recent are Frome Wood (1906), Windsor Forest (1934), and Sherwood Forest (1913). The unconfirmed record for Rowardennan relates to specimens collected in 1969 and 1978.

Threats Any threat to areas of ancient forest. The removal of dead timber.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Neuraphes carinatus

VULNERABLE

Order **Coleoptera** Family **Scydmaenidae**

Neuraphes carinatus (Mulsant, 1861).

Identification Much confused with other species of *Neuraphes*: specialist identification is necessary. H. Franz *in* Freude, Harde & Lohse (1964-83), 3:279-284; Allen (1969c), pp.240-241.

Distribution South-east England. Known from some seven localities in Kent (Brasted and Lenham), East Sussex (Ditchling) and Surrey (Box Hill, Caterham, Chipstead and Weybridge). The

records are all for single specimens. The populations are probably small.

Habitat and ecology Moss, litter, etc. on sheltered chalky hillsides. One was taken from a nest of the ant *Formica fusca* L. Probably a predator of mites. Adults have been collected in Britain in March-May, July and August.

Status Small (1.3 mm) and easily overlooked. The most recent record is for 1941, but probably still to be found in some of the localities listed above, and perhaps others.

Threats Any threat to the maintenance of sheltered chalky hillsides in south-east England, i.e. ploughing or other drastic disturbances.

Conservation Any measures to conserve sheltered chalky hillsides in south-east England.

Author P. M. Hammond.

Microscydmus minimus

VULNERABLE

Order **Coleoptera** Family **Scydmaenidae**

Microscydmus minimus (Chaudoir, 1845).

Identification Easily confused with *M. nanus* (Schaum): specialist identification is necessary. H. Franz *in* Freude, Harde & Lohze (1964-83), 3:293-294.

Distribution Sherwood Forest (Nottinghamshire), Bagots Park (Staffordshire), Windsor Forest (Berkshire) and the New Forest (Hampshire). The populations are mainly small and highly localised, though it is apparently widespread at Windsor (J. A. Owen, pers. comm.).

Habitat and ecology Cavities in old hollow oaks *Quercus*. Probably a predator of mites. Adults have been collected in Britain in April, May and July.

Status Probably confined to old oak forests. There are post-1970 records for each of the four known localities, including three sites at Windsor in 1980-84.

Threats Any threat to the ancient forest areas in question. The removal of dead timber, especially old fallen oaks.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Euconnus pragensis

ENDANGERED

Order **Coleoptera** Family **Scydmaenidae**

Euconnus pragensis (Machulka, 1823), formerly misidentified in Britain as *Euconnus claviger*.

Identification Joy (1932), p.482; Donisthorpe & Walker (1931), p.41, pl. D:3; H. Franz *in* Freude, Harde & Lohse (1964-83), 3: 294-299.

Distribution Only known from Windsor Forest. The population is probably very small and localised.

Habitat and ecology In the decaying wood of old trees, in company with the ant *Lasius brunneus* (Latreille); apparently truly myrmecophilous. Probably a predator of mites. Adults have been collected in Britain in August and October.

Status Like several other beetle species associated with *Lasius brunneus*, Windsor Forest is the only recorded site for *E. pragensis* in Britain. Small (1.6 mm) and with a highly localised habitat, so easily overlooked. There are three British records, of which the most recent is for 1940.

Threats Any threat to areas of ancient forest. The removal of dead timber, especially that occupied by *Lasius brunneus*.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Scaphium immaculatum

ENDANGERED

Order **Coleoptera** Family **Scaphidiidae**

Scaphium immaculatum (Olivier, 1790).

Identification Joy (1932), pp.475-476; Donisthorpe & Walker (1931), pp.60-61, pl.F:1; Harde (1984), fig. 135:7.

Distribution Only known from St Margaret's Bay, Kent.

Habitat and ecology Apparently a thermophilous species on the Continent, found in dunes in Holland and in moss, floating wood and litter and rotting fungi in Germany.

Status Possibly a chance immigrant, known from 19 specimens found by P. Harwood between 1918 and 1936 on the Kent coast near St Margaret's Bay, north of Dover. The first were taken in April/May 1918 (Harwood, 1918), and the remainder (mainly in September) in 1921-36 (E.C. Bedwell Collection, Norwich Museum: A.B. Drane, pers. comm.).

Author R. C. Welch.

Olophrum assimile

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Olophrum assimile (Paykull, 1800).

Identification Tottenham (1954), p.30.

Distribution The Nethy Bridge district, Highland, and Dun Fell, Cumbria. It is highly localised, but populations may be of moderate size. On Dun Fell ten pitfall traps at 820m caught 57 individuals during three years of trapping (1976-78), while ten traps at 850m caught 977 individuals during one season (1978) of trapping. Similar numbers of traps at six other (lower) altitudes on Dun Fell caught no *O. assimile*, suggesting that its population there is restricted to the summit area.

Habitat and ecology In wet moss and litter, on mountains only (in Britain). A predator. Wing polymorphic. The peak adult activity is May-June and October-November.

Status Probably confined to a few mountain-tops and possibly to the two from which it has been recorded. The species is distinctive and has been searched for on a number of other 'suitable' mountains. The relict populations of this boreo-alpine species found in Britain are of interest in that they exhibit morphological differences among themselves and from Continental populations.

Conservation The summit area of Dun Fell, where relict populations of several other beetle species also occur, should be protected from any major changes.

Author P. M. Hammond.

Orochares angustatus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Orochares angustatus (Erichson, 1840).

Identification Tottenham (1954), p.28 and fig.52.

Distribution There are two confirmed British records (both for single individuals): Boxmoor, Hertfordshire, and Bradfield, Berkshire. There are also two published records (probably false) for Tweeddale (Borders). *If* it is still present in Britain the breeding populations are undoubtedly small and localised.

Habitat and ecology Decaying vegetable matter, such as compost, decaying cabbage stems, old root vegetables, etc., and dung. The adults are winter-active (October to April).

Status The two confirmed records are for 1888 and 1903. Its breeding range may not reach the British Isles and it is probably not an established species in Britain.

Author P. M. Hammond.

Phyllodrepa nigra

A rove beetle **VULNERABLE**

Order **Coleoptera** Family **Staphylinidae**

Phyllodrepa nigra (Gravenhorst, 1806), formerly known as *Hapalaraea nigra*.

Identification Tottenham (1954), p.21. Easily confused with the common *P. floralis* (Paykull), but the absence of patches of wing-folding spicules from the fifth abdominal tergite in *P. nigra* should enable recognition of the species.

Distribution Windsor Forest, Berkshire. There are also possibly reliable but unconfirmed records for Oxfordshire (Fowler), the New Forest, Hampshire (Donisthorpe; Walker), Swanage, Dorset (Pearce), and Colyton, south Devon (Ashe). The population is probably small and localised.

Habitat and ecology Largely a woodland species and, in Britain, probably restricted to areas of established woodland. Adults have been collected from a variety of situations, including decaying tree fungi, sap flows on old trees, pigeon dung, a hornet's nest (*Vespa crabro* L.), etc., but they are most commonly found on blossom (in spring) and in the decaying wood or mould of old, generally hollow trees. Larvae have been discovered (in Germany) in a hollow oak occupied by jackdaws and, as with other *Phyllodrepa* species, larval development probably usually takes place in nests, in the case of *P. nigra* those of birds (starlings, jackdaws, pigeons, owls, etc.) in hollow trees. The adults and larvae are probably predaceous and/or scavengers. Adults have been collected (in Britain and northern Europe) in January-June and September-November. The adults are probably quiescent during mid-summer and breed in the autumn, with the larvae overwintering.

Status Known with certainty only from Windsor Forest, where the species has been collected in a number of years between 1925 and 1984. Not all of the records for other localities are likely to be reliable, but *P. nigra* may well occur in other ancient forest areas such as the New Forest. The species' overall distribution is of a 'Continental' type and in southern England it is at the extreme western limit of its range.

Threats Any threat to areas of ancient forest.

Conservation Measures to conserve areas of ancient forest, and the protection of old hollow oaks and other trees in these areas.

Author P. M. Hammond.

Xylodromus testaceus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Xylodromus testaceus (Erichson, 1840).

Identification Tottenham (1954), p.27.

Distribution "London area"; Gumley, Leicestershire; and Blean Woods, east Kent. The populations are probably small and highly localised.

Habitat and ecology Under bark and in rotten wood.

Status The species' range appears only just to include southern England. The only 20th century records are for Blean Woods (1913 and 1950). *X. testaceus* may still occur there and/or in other southern English woodlands.

Conservation Protection of Blean Woods and the conservation of the dead wood fauna to be found there.

Author P. M. Hammond.

Eudectus whitei

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Eudectus whitei Sharp, 1871.

Identification Tottenham (1954), p.36 and fig.69. A small but highly distinctive species.

Distribution Ben-a-Bhuird (Deeside, 1871); Cross Craig (Rannoch district, 1921); Meall Garbh (Rannoch district, 1980 and 1981); Ben Macdui (1968); Cairngorms NNR (1968 and 1969); Cairn Gorm (1982); Sgurr Mhor (Ross & Cromarty, 1982); Ingleborough (North Yorkshire, 1913); and Pen-y-ghent (North Yorkshire, 1952, 1953 and 1967). The populations are highly localised and, because suitable mountain-top areas are of limited size, probably not very large, but the population in the Cairngorms NNR, at least, appears to be healthy.

Habitat and ecology A mountain-top species favouring exposed situations at or near mountain summits. Found at the roots of short vegetation and in moss such as *Racomitrium* at altitudes between 610m and 1180m. In 1968 and 1969 R. C. Welch collected 55 specimens in pitfall traps placed between 1130m and 1180m in the Cairngorms; *E. whitei* appeared to be most numerous in very barren areas with many loose granite chips. The adults are active in June and early July but, in at least some cases, this may be followed by a period of quiescence. Active adults were collected in August by W. O. Steel. In the Cairngorms in 1968 and 1969 pitfalls trapped adults from the first sampling date (3 July) until 12 September (R. C. Welch, in litt.). A full-grown larva was found by Steel in May and pupae in June, indicating that the species overwinters as a larva.

Status Apparently still well-established on mountain summits in the Cairngorms and Rannoch areas. The species is found at sites difficult of access and is not easy to collect, as it is small and slow-moving and hides itself away under stones, moss, etc. *E. whitei* is probably to be found, as yet undiscovered, on mountain tops additional to those listed above. The species has a special interest because of the relict status of its British populations. I have seen no non-British specimens which are likely to be conspecific with those from Britain, although the species is reported from Novaya Zemlya, USSR. There are no records for other countries. It is possible that some records for the closely related (but clearly distinct) *E. giraudi* Redtenbacher from Scandinavia should be referred to *E. whitei*.

Conservation Several of the sites are in the Cairngorms NNR.

Author P. M. Hammond.

Manda mandibularis

A rove beetle **VULNERABLE**

Order **Coleoptera** Family **Staphylinidae**

Manda mandibularis (Gyllenhal, 1827), formerly known as *Acrognathus mandibularis*.

Identification Tottenham (1954), p.39 and fig.72; Harde (1984), fig.140:3.

Distribution The New Forest, Hampshire; Epping Forest, Essex; Windsor Forest, Berkshire; Darenth Wood, Ashford and Tonbridge, Kent; Bookham, Claygate and Woking, Surrey. The populations are probably very localised.

Habitat and ecology Found on the banks of still water, in mud, wet moss and debris. Apparently more or less confined to wooded areas. The species has been collected in numbers on the wing during its evening flight period. Adults have been collected in Britain during the months April-June. Probably saprophagous and/or feeds on algae.

Status Most records are for the 19th century or very early 20th century. There are post-1930 records for only two localities: Ashford and Bookham. The species was regularly collected at Bookham until 1943 (and perhaps later) but I am aware of no records after that date. However, as individuals of *Manda* are not easy to find, it is quite likely that the species persists in one or more British localities. It appears to be at the north-western limit of its range in southern England.

Threats Any threat to areas of established woodland in southern England, and more particularly to ponds in these woodlands.

Conservation Protection of New Forest and other forest ponds from pollution and damage.

Author P.M. Hammond.

Planeustomus flavicollis

A rove beetle **VULNERABLE**

Order **Coleoptera** Family **Staphylinidae**

Planeustomus flavicollis Fauvel, 1871.

Identification Tottenham (1954), p.40.

Distribution Only recorded from the New Forest, Hampshire, and Caterham, Surrey. The populations are probably small and very localised.

Habitat and ecology Virtually nothing is known of the habits and preferred habitats of this species in Britain but, like other species of *Planeustomus*, it may be assumed that *P. flavicollis* adults burrow in wet sand, mud or fine gravel in waterside situations. Adults have been collected in Britain in June and July. Probably saprophagous and/or feeds on algae.

Status Doubt has been expressed (Tottenham, 1954) concerning the taxonomic status of this species or, at least, the status of British specimens so identified. I have compared British specimens with Fauvel's two original specimens from near Verviers, Belgium, and consider them likely to belong to the same species. There appear to be no further records for *P. flavicollis*, but I have seen a further specimen, from the Caucasus (Fauvel collection), which I regard as belonging to this species. As noted by Allen (1970b), *P. flavicollis* appears to be a perfectly distinct, although apparently

rarely collected, species. Only two British specimens of *P. flavicollis* are known, collected at Caterham, Surrey, by G. C. Champion in 1875 and in the New Forest by D. Sharp in 1912. In view of the paucity of records for the species in other parts of its range and the lack of any information concerning its biology, its status as a British species must remain uncertain. Individuals of all species of *Planeustomus* appear to be rarely found except when they emerge from their burrows for flight in the evening. The short elytra and reduced eyes of *P. flavicollis* indicate that flight may be rare or lacking in this species.

Author P. M. Hammond.

Bledius crassicollis

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Bledius crassicollis Boisduval & Lacordaire, 1835.

Identification Allen (1974b); G. A. Lohse, *in* Freude, Harde & Lohse (1964-83), 4:97. Specialist identification is necessary; it is often confused with *B. occidentalis* Bondroit.

Distribution Only known from Herne Bay (east Kent) and Totland Bay (Isle of Wight). The populations are probably small and very localised.

Habitat and ecology The adults and larvae are subcolonial and burrow in moist sand or clay, mostly in the vicinity of fresh water. Like other *Bledius* species it is probably herbivorous, feeding on algae in burrows. In Britain it has so far been found only on the coast. The population discovered at Totland Bay was found in a patch of moist clay in which the beetles made shallow, largely horizontal burrows. Adults have been collected in Britain in April and May.

Status *B. crassicollis* was collected at Herne Bay in 1914 by Sharp, and at Totland Bay in 1973, where a "thriving colony" was discovered by D. Appleton. Most old records for this species are to be referred to its relative *B. occidentalis*. The recent record (Allen, 1974b) for Dungeness is also to be referred to the latter species.

Conservation Protection of the coastal sites where the species has been found. *Bledius* colonies tend to shift rapidly from one area to another.

Author P. M. Hammond.

Bledius dissimilis

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Bledius dissimilis Erichson, 1840.

Identification Tottenham (1954), p.52.

Distribution Bridlington and North Ferriby (Humberside), and Sheffield Bottom (Theale, Berkshire). It is probably very localised but populations at two of the three known localities appear to be of reasonable size. Several hundred adults were observed in an area of a few square metres at Sheffield Bottom.

Habitat and ecology The adults and larvae are subcolonial and burrow in wet sand or clay, mostly in the vicinity of fresh water. Like other *Bledius* species it is probably herbivorous, feeding on algae in its burrows. At two of the known British localities the species has been found in vertical bare sandy or clayey cliff, whereas in Berkshire a colony was found in bare horizontal patches of fine muddy clay at the edge of a flooded gravel-pit. Adults have been collected in Britain from June to October.

Status *B. dissimilis* was first discovered at Bridlington in 1878 and was found there not uncommonly until at least 1952. The species has been looked for at and near Bridlington during the past few years without success; the site has changed considerably and has been buried by blown sand. Extensive colonies were discovered at North Ferriby on earth cliffs by the Humber in 1977 and in gravel workings at Sheffield Bottom in 1978. These recent finds suggest that the species may well be more widespread.

Threats The site at North Ferriby is close to several factory developments (P. J. Hodge, pers. comm.).

Conservation *Bledius* colonies tend to shift from site to site and may be difficult to conserve.

Author P. M. Hammond.

Bledius filipes

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Bledius filipes Sharp, 1911.

Identification Tottenham (1954), p.54; G. A. Lohse *in* Freude, Harde & Lohse (1964-83), 4:92-93.

Distribution In and at the foot of clay cliffs on the Norfolk coast (Mundesley, Overstrand, Cromer, Sheringham and West

Runton). The populations are probably small and, at any one time, very localised.

Habitat and ecology The adults and larvae are subcolonial and burrow in moist sand or clay. Like other *Bledius* species it is probably herbivorous, feeding on algae in its burrows. *B. filipes* apparently prefers to burrow in vertical banks. Although all British records are for coastal localities the species is found in the vicinity of fresh water, mostly on the banks of large rivers, as well as on coastal cliffs. Adults have been collected in Britain from June to August.

Status This species was first described in 1911 on the basis of specimens collected at Overstrand (in 1897) and Mundesley. *B. filipes* continued to be found on the stretch of coast between Sheringham and Mundesley until at least 1918, but further records are lacking until the species was discovered at West Runton in 1980 by I. Carter. The West Runton colony was still flourishing in 1982 (J. A. Owen, pers. comm.). In the intervening years the species had been searched for, particularly between Cromer and Overstrand, without success. *B. filipes* may be expected to persist at several sites along this part of the Norfolk coast, with the precise location of colonies shifting from time to time. The species is widespread in central Europe and appears to be common in the Rhine estuary. Like *Nebria livida* (L.) and other beetle species, *B. filipes* is likely to be a 'Rhine relict' in Britain; i.e. it has persisted on the east coast of England since the time (prior to the formation of the English Channel) that this area formed part of the Rhine estuary.

Threats Changes of land use on the north Norfolk coast and the building of sea defences at the base of crumbling cliffs.

Conservation Protection of the coastal sites where the species has been found. *Bledius* colonies tend to shift from one site to another as local conditions change, and may be difficult to conserve.

Author P. M. Hammond.

Bledius furcatus — A rove beetle — ENDANGERED

Order **Coleoptera** — Family **Staphylinidae**

Bledius furcatus (Olivier, 1811).

Identification Tottenham (1954), p.50, fig. 90.

Distribution Wells-next-the-Sea and Holkham (Norfolk), Enfield (Greater London), Ringmer (East Sussex), Ipswich (Suffolk) and "North Wales". Populations are probably very localised.

Habitat and ecology The adults and larvae are subcolonial and burrow in the mud of estuaries, salt-marshes and coastal mud-flats. Like other *Bledius* species it is probably herbivorous, feeding on algae in its burrows. Adults have been collected in Britain from July to September.

Status The records for Enfield, Ipswich and "North Wales" are all for individual captures and are for the pre-1910 period. *B. furcatus* has been known to occur on the Norfolk coast in the vicinity of Wells since the mid-19th century. There are many records for this locality, the most recent of which known to me is for 1909. The species has been searched for at Wells in recent years without success, and was widely considered to be extinct in Britain. However, a single individual of *B. furcatus* was collected at Ringmer in 1976 by P. Hodge at a mercury vapour light. This may have flown from the north coast of France where the species is locally common. However, it is equally possible that *B. furcatus* persists as a British insect with colonies at one or more sites on the south coast. The species is at the north-western limit of its range in southern England and, although common in southern Europe, appears to be rarer today in many parts of northern Europe where it was once more common.

Conservation *Bledius* colonies tend to shift from site to site and may be difficult to conserve.

Author P. M. Hammond.

Carpelimus schneideri

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Carpelimus schneideri (Ganglbauer, 1895), formerly known as *Trogophloeus schneideri* or *T. hemerinus* Joy.

Identification Tottenham (1954), p.44.

Distribution Anthorn (Wampool Estuary, Cumbria), and Hunstanton (Norfolk). Populations are probably very localised.

Habitat and ecology Burrows in the mud of estuaries and salt-marshes; confined to the vicinity of salt water. Quite often found in the burrows of *Bledius* species (e.g. *B. atricapillus* (Germar) and *B. tricornis* (Herbst)). Probably grazes algae after the manner of *Bledius* species.

Status First recorded as British in 1913. There appear to be no later British records after Cameron (1917) pointed out the species' true identity and noted its occurrence at Anthorn and Hunstanton. Possibly often overlooked owing to its small size and occurrence in a little-sampled habitat (coastal mud-flats). The species is at the north-western limit of its range in England.

Author P. M. Hammond.

Thinobius newberyi

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Thinobius newberyi Scheepeltz, 1925. Also listed in Category 5 (Endemic).

Identification Tottenham (1954), p.56, fig.89.

Distribution Near Aviemore (Strathspey, Inverness) and Great Salkeld (Cumbria). Populations are probably very localised. Appears to be endemic to Great Britain.

Habitat and ecology Under stones and in gravel beside clean mountain streams and rivers. Probably feeds on fragments of plant material. Adults have been collected in Britain in the months May and July-September.

Status First discovered at Great Salkeld, under stones on a gravel bed at the side of a stream in 1907, and found at the same site sparingly until at least 1909. It was later found near Aviemore in 1938, under stones on sandy ground near the River Druie. The species may be expected to occur at other suitable localities in the north of Britain, but there appear to be no recent captures and the species has not been recorded from Continental Europe. The pale colour and small eyes characteristic of this species suggest that it normally occurs deep in stream-side gravel and is unlikely to be detected easily.

Author P. M. Hammond.

Stenus fossulatus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Stenus fossulatus Erichson, 1840.

Identification Tottenham (1954), p.62, fig.133.

Distribution Castle Eden Dene, Co. Durham. Probably very localised, but the population at Castle Eden is apparently of a good size.

Habitat and ecology On wet mud, clay or sand, not necessarily beside water. The species appears to favour chalky soil. Found in Britain on earthslips of calcareous clay, most commonly in open areas with a sparse growth of herbs, with *Bembidion stephensi* Crotch and *B. nitidulum* (Marsham). A predator, probably of Collembola.

Status First discovered at Castle Eden by C. E. Tottenham, who collected 22 specimens in 1936. Rediscovered in the same area by Reid (1982) in July 1981, when it was found to be abundant on five earthslips between grid references NZ 440400 and NZ 432397. The population at Castle Eden Dene is presumably a long-established relict one.

Threats No obvious threat at Castle Eden as long as landslips continue.

Conservation The colony is within Castle Eden Dene NNR.

Author P. M. Hammond.

Stenus glacialis — A rove beetle — ENDANGERED

Order **Coleoptera** — Family **Staphylinidae**

Stenus glacialis Heer, 1839.

Identification Tottenham (1954), p.70, fig.172; Johnson (1967); G.A. Lohse *in* Freude, Harde & Lohse (1964-83), 4:126.

Distribution The Cheviots, the "Dee district" of Scotland and the Ochil Hills. Populations are probably small and very localised.

Habitat and ecology A mountain species. In wet moss at high altitude. Predatory.

Status The "Dee district" (Sharp) and Cheviots (Hislop) records are for the 19th century. I have examined the Cheviot specimens. The species has recently been rediscovered by R. Lyszkowski in Scotland (Ochil Hills). *S. glacialis* is widespread in the mountains of Central Europe but absent from Scandinavia, so that the Scottish localities are by far the northernmost known in a highly disjunct range. Further investigations are needed to establish the extent of the species' British range, but it is unlikely to occur in *many* northern British mountain areas, as a number of these have been well investigated for Staphylinidae.

Author P. M. Hammond.

Lathrobium rufipenne

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Lathrobium rufipenne Gyllenhal, 1813.

Identification Joy (1932), p.133-134; G.A. Lohse *in* Freude, Harde & Lohse (1964-83), 4:150. Much confused with other species of *Lathrobium*, especially *L. ripicola* Czwalina. The male genitalia are highly distinctive.

Distribution A number of old records for this species have been shown to be false. Old records which require confirmation, but may be correct, are for the Manchester district (Barton Moss, Stretford and Staly Brushes) and Brigg, Humberside. Confirmed records are for Delamere Forest (Cheshire) and Horning Fen and Upton Broad (Norfolk). Populations are probably very localised.

Habitat and ecology A fen and bog species. Confirmed British records are for wet reed litter and *Sphagnum* beds. Adults have been collected in Britain in the months April, May, August, September and December. A predator.

Status The present status of this species in Britain is difficult to gauge because of past confusion with related species. The only British records which I have been able to confirm are for Delamere Forest, where the species was found regularly between 1905 and 1912, and again in April 1980 (P. Hodge); Horning Fen (19th century records only); Upton Broad, found in May 1980 (Hammond). *L. rufipenne* may persist in other suitable fen or bog localities.

Threats Any threat to areas of ancient fen or to the Broads area.

Conservation Measures to conserve areas of fen and broad. Upton Broad is a nature reserve of the Norfolk Naturalists' Trust.

Author P. M. Hammond.

Scopaeus laevigatus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Scopaeus laevigatus (Gyllenhal, 1827).

Identification Allen (1969a), p.200.

Distribution Seaton (south Devon), and possibly also Axbridge (Somerset) (see Allen, 1969a, p.202). Populations are probably small and very localised.

Habitat and ecology On damp sand beside fresh water. In Britain found beside springs and pools in coastal 'chines' and the broken faces of sandy cliffs. Predatory. Adults have been collected in Britain in April, June and September.

Status Known with certainty to occur only at Seaton, where specimens were collected in 1949, 1950 and 1951. I know of no subsequent records, but the species may well persist at Seaton and, perhaps, elsewhere on the south coast of England. Devon represents the north-westernmost extension of the species' range.

Threats Any change of land use at Seaton or similar coastal localities in south Devon.

Conservation Protection of landslip areas at Seaton and elsewhere on the south Devon coast.

Author P. M. Hammond.

Scopaeus minimus

A rove beetle **VULNERABLE**

Order **Coleoptera** Family **Staphylinidae**

Scopaeus minimus (Erichson, 1839).

Identification Allen (1969a), p.200.

Distribution Slapton Ley (south Devon) and Helston (west Cornwall). Populations are probably small and very localised.

Habitat and ecology In fine shingle or gravel near water. In Britain known only from coastal localities. A predator. Adults have been collected in Britain from April to August.

Status Known with certainty only from Slapton Ley (records from 1869 to 1943) and Helston (1947). I know of no very recent records, but the species probably still occurs at these two localities and, perhaps, in other suitable places on the south coast of Devon and Cornwall. Also recorded from Ramnor (New Forest), but the record requires confirmation.
S. minimus is at the north-westernmost limit of its range in south-west England.

Conservation Protection of shingle areas on the foreshore at Slapton Ley.

Author P. M. Hammond.

Scopaeus minutus

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Scopaeus minutus Erichson, 1840.

Identification Allen (1969a), p.200.

Distribution Charmouth and Bridport (Dorset). The populations are probably small and very localised.

Habitat and ecology On damp sand beside fresh water. In Britain found beside springs and pools in coastal 'chines' and the broken faces of sandy cliffs. A predator. Adults have been collected in Britain in June and September.

Status Known with certainty to occur only at Charmouth and Bridport. A recent record for Slapton Ley (Allen, 1970a) appears to be in error. Records for the Dorset coast extend from 1924 to 1934; the species is likely to persist in the Charmouth area and perhaps elsewhere on the coast of Dorset and south-east Devon. The south coast of England represents the north-westernmost extension of the species' range.

Threats Any change of land use in the coastal localities where the species occurs.

Conservation Protection of cliff areas at Charmouth and Bridport.

Author P. M. Hammond.

Astenus subditus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Astenus subditus (Mulsant & Rey, 1878).

Identification Coiffait (1960), p.63; G.A. Lohse *in* Freude, Harde & Lohse (1964-83), 4:136.

Distribution Whitsand Bay, east Cornwall. The population is probably small and localised.

Habitat and ecology At the roots of grass and in moss, etc., in sandy or chalky situations. Predatory. Adults have been collected in Britain in April.

Status Long confused with *A. procerus* (Gravenhorst) (= *filiformis* (Latreille)), a species more or less confined to the south coast in Britain, and also rare today. However, examination of all available British material of *Astenus* has revealed specimens of *A. subditus* from only one locality: Whitsand Bay, on the south coast of east Cornwall. The species was

collected there by Donisthorpe in April 1907 and, at about the same period, by J. J. Walker. I know of no recent collections from Whitsand Bay or of any attempts to see if the species is still to be found there. The locality may well have changed considerably since 1907.

Threats Any change of land use at Whitsand Bay.

Conservation Further investigation of the only known British locality is needed.

Author P. M. Hammond.

Philonthus dimidiatipennis

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Philonthus dimidiatipennis Erichson, 1840.

Identification Daltry (1958); G. A. Lohse *in* Freude, Harde & Lohse (1964-83), 4:185.

Distribution Walberswick, Suffolk. The population is probably very localised.

Habitat and ecology Found in saltmarshes and on the banks of brackish water. A predator.

Status *P. dimidiatipennis* is widely distributed around the Mediterranean and also occurs in the vicinity of salt water east at least to the Caspian Sea. On the Atlantic coast of Europe it is also widespread, but was not reported north of Brittany before about 1950. In recent years the species has been found to occur on the Dutch coast, as well as in England. At Walberswick *P. dimidiatipennis* was discovered in June 1956 and collected there again in 1957. I know of no later records for this locality but the species may well still occur on the Suffolk coast.

Conservation Protection of brackish marsh areas south of Walberswick.

Author P. M. Hammond.

Cafius cicatricosus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Cafius cicatricosus (Erichson, 1840).

Identification Joy (1932), p.115.

Distribution Portsmouth, Milton Creek and Southsea (Hampshire); Ryde (Isle of Wight); Worthing and Shoreham-by-Sea (West Sussex). The populations are probably very localised.

Habitat and ecology Restricted to the sea-shore, where it is found most commonly in and under drifted seaweed. A predator, mostly of dipterous larvae. Adults have been collected in Britain in the months May-October.

Status Records for the south coast localities listed above extend from 1871 to 1908, when the species was found at Southsea and Milton Creek. I know of no subsequent records. The south coast of Britain represents the northernmost extension of the species' range.

Threats Pollution of south coast beaches.

Conservation Further investigaton is needed to establish whether the species still occurs in Britain.

Author P. M. Hammond.

Emus hirtus

A rove beetle **ENDANGERED**

Order **Coleoptera** Family **Staphylinidae**

Emus hirtus (L., 1758).

Identification Joy (1932), p.113; Harde (1984), fig. 147:4. A large and highly distinctive species. Long golden pubescence covering the head and pronotum, coupled with its size (c.20 to 25mm in length), make this beetle unmistakable.

Distribution There are early 19th century records for the New Forest (Hampshire), Parley Heath (Dorset), Beachamwell (Norfolk), Guildford and Coombe Wood (Surrey), and Devon. Records for the second half of the 19th century cover Redruth (Cornwall), the New Forest, Southend (Essex), and Darland Hill, Sheerness and Sittingbourne (Kent). 20th century records are mostly for a small area straddling the Thames estuary: Sheerness district, Harty Marshes, Isle of Sheppey, Gillingham, Port Victoria, Cliffe, Isle of Grain, Faversham Creek and Canterbury (Kent); Benfleet, Canvey Island and near Southend (Essex). Other records are from Pevensey Bay, East Sussex (Ford), Merrow near Guildford, Surrey (Lloyd), and Midger Wood, Avon (Lear). The populations are undoubtedly small and localised, if indeed it is still in existence.

Habitat and ecology On and in *fresh* cow and horse dung. Also sometimes found on carrion, on decaying fungi, and at sap exuding from tree stumps. Adults are active from April to November but the great majority of British records are for May-June. Larvae and adults prey on other insects, especially dipterous larvae.

Status Kentish records cover the years 1909 to 1950, the most recent being for Home Farm, Isle of Grain, June 1939 (Massee), and Old Park, Canterbury, May 1950 (Parry). In Essex the species was collected near Southend, June 1947 (Down), on Canvey Island, August 1949 (Weal) and at Benfleet in the 1950s (Watts). *E. hirtus* is at the north-western limit of its range in England and is generally rare today in the more northerly parts of Continental Europe. The species has suffered a decline during the present century in much of Central Europe. This seems likely to have involved climatic factors, and *E. hirtus* may no longer be a resident of the British Isles, the 1984 Avon record possibly being an accidental introduction.

Author P. M. Hammond, using information from Allen (1962, 1964b), Huggins (1962), Brown (1963), Parry (1979) and Lear (1986).

Velleius dilatatus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Velleius dilatatus (F., 1787).

Identification Joy (1932), p.107; Harde (1984), fig. 147:9. A large and highly distinctive species.

Distribution The New Forest (Hampshire), Windsor Forest (Berkshire), Cokethorpe Park (Oxfordshire), Moccas Park (Hereford & Worcester), Wanstead (Greater London), Bury St Edmunds district (Suffolk), and Castle Drogo (Devon).

Habitat and ecology Inhabits hornets' nests (*Vespa crabro* L.) in old trees. Adults and larvae of *V. dilatatus* prey on the dipterous larvae which occur in hornets' nest debris. There is no evidence that they are kleptoparasitic. Adults are sometimes collected at the exuding sap of *Cossus* (goat moth) trees. Adults have been collected in Britain in the months June-August and October. The populations are probably very small and localised.

Status The single records for three of the known localities are old. Those for Windsor Forest (1952), Moccas Park (1964) and Castle Drogo (?) are more recent. Only the New Forest area has a number of records, extending from 1864 to 1971. The species is likely to persist in the New Forest area and, perhaps, in other areas of ancient forest or park woodland. Its continued presence in the British Isles depends very much on the fortunes of its host, the hornet.

Threats Any threats to the ancient forest areas where it occurs and, more particularly, to hornets and their nesting sites.

Conservation Hornets' nests in the New Forest and Windsor Forest require protection. Castle Drogo Estate is a property of the National Trust.

Author P. M. Hammond.

Quedius balticus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Quedius balticus Korge, 1960.

Identification Last (1963), pp.43-45.

Distribution Wicken Fen, Cambridgeshire, and Upton Broad, Norfolk. The populations are probably very localised.

Habitat and ecology Damp litter, mostly in fens and marshes, and possibly confined to fen districts. Adults have been collected in Britain in February and May-August. Predatory.

Status First described in 1960, up to which time it had been confused with *Q. molochinus* (Gravenhorst) (more or less generally distributed in the British Isles). The overall range of *Q. balticus* remains unclear, and its distribution in Britian uncertain. Records for Wicken Fen include captures in many years (from 1923), and the species is probably well-established there. One individual was collected at Upton Broad in 1980. *Q. balticus* may be expected to occur elsewhere in the Fen and Broad districts, although searching in some of the more likely areas has so far met with no success.

Threats Any threat to areas of ancient fen.

Conservation Wicken Fen is owned by the National Trust, and Upton Broad is a reserve of the Norfolk Naturalists' Trust. Measures to protect areas of fen and broad are needed.

Author P. M. Hammond.

Acylophorus glaberrimus

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Acylophorus glaberrimus (Herbst, 1784).

Identification Joy (1932), p.106. A highly distinctive species.

Distribution Barnes, Merton and Richmond, Greater London, and also near Brockenhurst (Balmer Lawn), New Forest. The populations are probably fairly small and highly localised.

Habitat and ecology Among semi-aquatic vegetation, mostly in *Sphagnum* moss, often at the edge of ponds. Adults have been collected in Britain from May to September. Predatory; usual prey unknown, but probably a very restricted range.

Status Records for ponds in London (Barnes, Merton, Richmond) date from 1859 and extend to at least 1876. The species would seem unlikely to persist in this area, which has undergone considerable development in the past hundred years. There were no other British records until 1970 when *A. glaberrimus* was discovered in the New Forest. It has since been collected in some numbers at this one locality (Marl Pits at Balmer Lawn) and probably still occurs there.

Threats Any threat to the aquatic habitats at the New Forest locality where it occurs.

Conservation Protection of the "Marl Pits" area at Balmer Lawn.

Author P. M. Hammond.

Tachinus bipustulatus

A rove beetle **VULNERABLE**

Order **Coleoptera** Family **Staphylinidae**

Tachinus bipustulatus (F., 1792).

Identification Joy (1932), p.92.

Distribution There are old records for a number of localities in the London area (Bedford Park, Catford, Charlton, Ealing, Enfield, Regent's Park, Richmond Park, and Putney). There are also 19th century records for Addington and Chatham (Kent) and Wicken (Cambridgeshire), and 20th century records for Woking (Surrey), the New Forest (Hampshire), Windsor Forest (Berkshire), and Ryde (Isle of Wight). The populations are probably small and localised.

Habitat and ecology Associated with sap-flows from deciduous trees, especially those resulting from attack by goat moth *Cossus* larvae. Adults have been collected in Britain from June to August. Predatory.

Status The most recent records for this species are those for Windsor Forest (1930s). It is possibly now extinct in Britain, but if still present it is most likely to persist in forest areas such as the New Forest. Apparently at the north-western limit of its range in southern England, and the species' recent decline in Britain may involve climatic factors.

Conservation Conservation of ancient forest areas in southern England.

Author P. M. Hammond.

Euryusa optabilis

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Euryusa optabilis Heer, 1839.

Identification Joy (1932), p.79.

Distribution Southern England: 19th century records for Addington, Kent; Hainault Forest & Epping Forest (Loughton), Essex; Highgate, Greater London; Ilfracombe, north Devon; Shirley, Surrey; and Tilgate Forest, West Sussex. There are 20th century records for Windsor Forest and Silwood Park, Berkshire, and the New Forest, Hampshire (Denny Wood). The populations are probably small and localised.

Habitat and ecology In the decaying wood of old trees, in company with the ant *Lasius brunneus* (Latreille) (and sometimes other species, e.g. *L. fuliginosus* (Latreille) and *L.* niger (L.)), but not an obligatory myrmecophile. Sometimes found in litter at the base of old beeches *Fagus* or oaks *Quercus*, especially those attacked by goat moth *Cossus* larvae. Adults have been collected in Britain in most months. Probably predatory.

Status Taken on many occasions in Windsor Forest between about 1910 and 1938, and again in June 1983 (J. A. Owen). The Silwood Park record is for 1964 and the New Forest record also for the same period. The species may persist in other ancient forest areas in southern Britain.

Threats Any threat to the ancient forest areas in question. The removal of dead timber, especially that occupied by *Lasius brunneus*.

Conservation Measures to conserve areas of ancient forest and its dead wood fauna.

Author P. M. Hammond.

Euryusa sinuata

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Euryusa sinuata Erichson, 1837.

Identification Joy (1932), p.79.

Distribution Windsor Forest and Silwood Park, Berkshire, and Langley Park, Buckinghamshire. The populations are probably small and very localised.

Habitat and ecology In the decaying wood of old trees, in company with the ant *Lasius brunneus* (Latreille); apparently not an obligatory myrmecophile, as Continental records refer to individuals found in decaying wood without ants. Adults have been collected in Britain in most months. Probably predatory.

Status With such a highly localised habitat it is easily overlooked, but is possibly restricted to Windsor Forest and nearby old park woodland. Windsor Forest records cover twelve different years from 1923 to 1983. The Silwood Park record is for 1964 and that for Langley Park for 1979. The species' Continental range suggests that it is unlikely to occur in England much further north.

Threats Any threat to the ancient forest areas in question. The removal of dead timber, especially that occupied by *Lasius brunneus*.

Conservation Measures to conserve areas of ancient forest and its dead wood fauna.

Author P. M. Hammond.

Tachyusida gracilis

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Tachyusida gracilis (Erichson, 1837).

Identification Joy (1932), pp.74-75, 80.

Distribution Only known from Windsor Forest, Berkshire. The population is probably small and very localised.

Habitat and ecology In the wood mould of old trees, especially oaks *Quercus*. Most British captures have been from nests of the ant *Lasius brunneus* (Latreille), but the species is apparently not an obligatory myrmecophile. Probably predatory. Adults have been collected in Britain in the months May, August and October.

Status A distinctive species with apparently very specialised habitat requirements. Possibly restricted to Windsor Forest, where specimens were collected in October 1926, May 1945, 1972, and August 1982. Scarce throughout its Continental range (mainly Central Europe) and regarded in mainland Europe as a relict 'Urwald' species.

Threats Any threat to the ancient forest area in question. The removal of dead trees and timber.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Amarochara bonnairei

A rove beetle — **ENDANGERED**

Order **Coleoptera** — Family **Staphylinidae**

Amarochara bonnairei (Fauvel, 1865).

Identification Joy (1932), p.36.

Distribution Mickleham (Surrey), Tring (Hertfordshire) and the New Forest (Hampshire). The populations are probably small and undoubtedly very localised.

Habitat and ecology Apparently a more or less strictly woodland species, found mostly in damp places. Reputedly myrmecophilous and often found in company with either of the ants *Lasius brunneus* (Latreille) or *L. fuliginosus* (Latreille), in old tree stumps, moss and leaf litter. All but two of the known British specimens were collected from the runs of *L. fuliginosus* at the root of an old beech tree *Fagus*, but were not found in the nest of these ants. Probably predatory. Adults have been collected in Britain in the months May-July (April-August in Germany).

Status Records for the three known British localities extend from 1862 to 1915, in which year a single individual was collected by Sharp in the New Forest. *A. bonnairei* is apparently at the northern limit of its range in southern England (it is absent from Scandinavia), but may still occur in the New Forest or other wooded areas in the south of England.

Conservation Measures to conserve areas of ancient forest in southern England.

Author P. M. Hammond.

Stichoglossa semirufa

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Stichoglossa semirufa (Erichson, 1839).

Identification Joy (1932), pp.16-21 and 34. Figured by G.A. Lohse *in* Freude, Harde & Lohse (1964-83), 5:285.

Distribution The Colchester district (Essex), the Lyndhurst district (New Forest), and Elsworth Wood (Cambridgeshire). The populations are probably small and very localised.

Habitat and ecology In the decaying wood and wood mould of old deciduous trees, and at the foot of these trees. Adults have been collected in Britain in May and June. Probably a predator.

Status Likely to be at the edge of its overall range in southern England. There are only three British records: one individual beaten from an oak *Quercus* near Colchester, May 1898, one found under loose bark of a standing beech *Fagus* near Lyndhurst, May 1969, and three taken from field maple *Acer campestre* by fogging with insecticide, June 1983. The circumstances suggest that the species is established in Britain, but probably confined to areas of ancient forest in the south.

Threats Any threat to ancient forest areas where the species occurs. The removal of dead timber.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond, using additional information from Welch (1984).

Haploglossa picipennis

A rove beetle **VULNERABLE**

Order **Coleoptera** Family **Staphylinidae**

Haploglossa picipennis (Gyllenhal, 1827), formerly known as *Microglossa picipennis*.

Identification Joy (1932), p.29.

Distribution Known only from Wales, two south Devon localities and two neighbouring localities on Speyside (Highland). It is possible that moderate numbers of *H. picipennis* can build up locally in the nests of raptors, particularly those using an established nest site. Otherwise it is extremely localised in its distribution.

Habitat and ecology In Britain known only from the nests of raptorial birds including buzzard *Buteo buteo*, sparrowhawk *Accipiter nisus* and osprey *Pandion haliaetus*. The larvae are unknown, but the larvae and adults are almost certainly predators upon the larvae of flies (Diptera) and fleas (Siphonaptera) and other small nidicolous invertebrates.

Status The first British records are from buzzards' nests collected in mid-Wales and near Exeter in July 1929. Joy (1930) also reports one specimen being swept by Dr. Nicholson in Devon in the same year. Later a single specimen was also recorded from a buzzard's nest at Bellever, Dartmoor (south Devon), on 19 August 1957 (Allen, 1977). The only other known localities are both on Speyside. On 6 September 1966 several were extracted from a sparrowhawk's nest at Polchar, Aviemore (Welch, 1979a), five specimens were obtained from an osprey's nest at Loch Garten in November 1979 (Carter *et al*, 1980), and others from osprey nests at

four other sites in 1983 (J. A. Owen, pers. comm.). The limited availability of raptor nests for study impedes the aquisition of further records of this species. However, a number of sparrowhawks' nests have been examined from Dumfries & Galloway, Anglesey and Windsor Forest (Berkshire) without finding further specimens.

Conservation The Loch Garten osprey's nest site has 24-hour wardening during the breeding season and other raptors have legal protection for themselves and their nesting sites.

Author R. C. Welch.

Aleochara inconspicua

A rove beetle **VULNERABLE**

Order **Coleoptera** Family **Staphylinidae**

Aleochara inconspicua Aube, 1850.

Identification Welch (1965).

Distribution The first confirmed record, by Blair (1933), is of one female collected in a hollow in a cliff face at Dunwich, west Suffolk. The next published record was by Dobson (1964) of its parasitising wheat bulb fly puparia in moderate numbers near Whittlesey and Peterborough, Cambridgeshire, although in May 1953 J. Bond had found a few parasitising puparia at Crowland, south Lincolnshire, and in June 1953 C. E. Tottenham found seven in small clumps of couch-grass *Elymus repens* on an allotment in Cambridge. Between July 1974 and January 1975 three males were collected in pitfall traps on a reseeded area of Royston Heath, Hertfordshire, bordered on one side by various cereal crops. A single female was recently identified in some pitfall trap material collected by M. L. Luff from a walled garden at Heddon-on-the-Wall, south Northumberland (Welch, 1983b). Very localised and usually occurring singly or in small numbers.

Habitat and ecology The larvae are parasitic in the puparia of the wheat bulb fly *Delia coarctata* (Fallen) (Diptera, Anthomyiidae) (Dobson, 1964; Welch, 1965). The adults are predaceous on fly larvae and other small invertebrates. This species has never been recognised parasitising other species of Anthomyiidae which have been studied more extensively.

Status Possibly restricted to the one host, *Delia coarctata*.

Threats Possibly at risk from insecticidal sprays, etc, used against its host.

Author R. C. Welch.

Aleochara maculata

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Aleochara maculata Brisout, 1863.

Identification Joy (1932), pp.26-28; Welch (1965).

Distribution Originally recorded from shingle banks of the River Lyn, north Devon, by Gorham (1870) from a specimen collected some years earlier. Only known from thirteen localities in nine vice-counties in southern England (mainly in the Home Counties). The most northerly record is from Church Stretton, Shropshire, by W. G. Blatch in 1891. The most recent specimens were swept in Windsor Forest, Berkshire, by A. A. Allen on 30 August 1941 (Allen, 1942) and 22 May 1946.

Habitat and ecology Presumed to be parasitic in the larval stages within dipterous puparia, with the adult being predacious. Mainly found singly by sweeping. The habitat is unknown but a number of specimens have been collected in woodland.

Status Not recorded in Britain since 1946. This species has always been rare throughout its known European range. Its apparent loss from Britain may be due to a contraction of its overall range in Western Europe.

Author R. C. Welch.

Aleochara moesta

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Aleochara moesta Gravenhorst, 1802, formerly known as *A. crassiuscula* Sahlberg.

Identification Joy (1932), pp.26-28; Welch (1965).

Distribution Known from twelve sites in eight vice-counties in southern England, the most northerly being from Cheshire. Originally found in some numbers by Champion (1908) under dung at Great Yarmouth, east Norfolk. It was taken regularly by J. J. Walker in the Oxford area in the same period but the last known record is that of C. E. Tottenham at Cambridge in April 1945. The name *A. moesta* was also in common use by British coleopterists for either *A. sparsa* Heer or *A. diversa* Sahlberg (including the more recently recognised *A. albovillosa* Bernhauer). Early records indicate that it could be locally common.

Habitat and ecology The larvae are presumed to be parasitic within dipterous puparia, and the adults predacious upon dipterous larvae and other small invertebrates. Apparently associated with dung and manure heaps.

Status Not recorded in Britain for 37 years, despite a considerable amount of Coleoptera-collecting from dung.

Author R. C. Welch.

Aleochara villosa

A rove beetle — **VULNERABLE**

Order **Coleoptera** — Family **Staphylinidae**

Aleochara villosa Mannerheim, 1830.

Identification Joy (1932), pp.26-28; Welch (1965).

Distribution Prior to 1930 this species was known from twenty scattered localities in fourteen vice-counties including Braemar, Deeside. Most specimens in British collections originate from pigeon cotes in Scarborough, North Yorkshire, from 1880. It was last taken in that area in 1930, and the same year B. S. Williams reported collecting single specimens at Harpenden, Hertfordshire, during 1926 and 1927. It was not until fifty years later that it was found in numbers in the base of a dovecote at Wytham, Oxford, in August 1980 (Welch, 1982), and again the following year. It may be common within its very localised specific habitat.

Habitat and ecology The larvae are parasitic within dipterous puparia (Muscidae). The adults are predacious on dipterous larvae and small invertebrates. Typically found in very dry straw and droppings in dovecotes, stables, etc.

Status Very localised. It was found to be well-established at only one site after not having been recorded for fifty years.

Threats This species may only have survived in the very few dovecotes which have remained in continuous use up to the present day.

Author R. C. Welch.

Biblioplectus tenebrosus

VULNERABLE

Order **Coleoptera** — Family **Pselaphidae**

Biblioplectus tenebrosus (Reitter, 1880).

Identification Pearce (1957), pp.19-20, figs 12 and 18.

Distribution Older records from the New Forest area, Brockenhurst and Hurn, in south Hampshire. Early records from Glamorgan

were later deleted by Pearce (1971). There are recent records from Askham Bog, North Yorkshire (1970); Hickling Broad, east Norfolk (1979); and Woodwalton Fen (1977) and Holme Fen (1980), Cambridgeshire. The populations are presumably small and localised.

Habitat and ecology In thick deep moss in bogs and swamps, or in grass tussocks. The larva is unknown.

Status Not recorded during a survey of the New Forest in late 1960s/early 1970s. Pearce (1971) writing in May 1970 states: "In recent years it has occurred on Askham Bog to C. Johnson, E. W. Aubrook and myself." A single male was sieved from sedge refuse in Woodwalton Fen on 24 May 1977 by C. Johnson. 27 were collected in ten pitfall traps placed in an area of *Sphagnum squarrosum/S. fimbriatum* at Holme Fen, 2-16 May 1980. A single male and female were collected at Hickling Broad on 24 May 1979 by C. Johnson. A species easily overlooked which may survive in small local populations in other East Anglian fens.

Threats Drainage of bogs and fens, or drying out due to scrub invasion.

Conservation Hickling Broad, Woodwalton Fen and Holme Fen are NNRs. The Holme Fen site needs to be maintained by controlling scrub invasion. Askham Bog is a reserve of the Yorkshire Wildlife Trust.

Author R. C. Welch, using additional information from Welch (1979b, 1983a).

Plectophloeus nitidus

ENDANGERED

Order **Coleoptera** Family **Pselaphidae**

Plectophloeus nitidus (Fairmaire, 1857).

Identification Pearce (1957); see also C. Besuchet *in* Freude, Harde & Lohse (1964-83), 5:324-326. Specialist identification is necessary. Two species of *Plectophloeus* are now known to occur in Britain, and further species of the genus may await discovery.

Distribution Windsor Forest (Berkshire), Sherwood Forest (Nottinghamshire), Moccas Park (Hereford & Worcester), and Blenheim Park (Oxfordshire). The populations are probably very small and very localised.

Habitat and ecology In rotten wood. Most British records are for old red-rotten oaks *Quercus* and all are for areas of long-established deciduous forest and park woodland. A predator, probably of mites. Adults have been collected in Britain in the months May-October.

Status This small species (1.0-1.5 mm in length) is no doubt easily overlooked and may well persist in all of the British localities from which it is known, although there are post-1950 records for only three of them. *P. nitidus* was collected at Blenheim Park in 1954, at Moccas Park in 1950 and again in 1975, and in Windsor Forest on various occasions in 1980-82 (J. A. Owen, pers. comm.).

Threats Any threat to areas of ancient forest. The removal of dead timber.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Batrisodes buqueti

ENDANGERED

Order **Coleoptera** Family **Pselaphidae**

Batrisodes buqueti (Aube, 1833), formerly misidentified in Britain as *B. adnexus* (Hampe).

Identification Pearce (1957), p.24 (but note that *B. buqueti* has relatively slender antennae; the words "robust" and "slender" in Pearce's couplet 1 should be transposed).

Distribution Only known from Windsor Forest, Berkshire. The population is probably small and very localised.

Habitat and ecology Found in the decaying wood of old deciduous trees, usually in association with ants of the genus *Lasius*. British records are all for specimens taken in association with *Lasius brunneus* (Latreille). A predator, probably of mites. Adults have been collected in Britain in June and August.

Status Recorded only from Windsor Forest, where single individuals have been found on four occasions (in 1924, 1926 and 1939). Donisthorpe (1939) reports that he had examined "hundreds" of *Lasius brunneus* nests at Windsor but had found this species only twice. *B. buqueti* is either a rare species at Windsor or is very difficult to find.

Threats Any threat to areas of ancient forest. The removal of dead timber, especially that occupied by *Lasius brunneus*.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Batrisodes delaporti

ENDANGERED

Order **Coleoptera** Family **Pselaphidae**

Batrisodes delaporti (Aube, 1833).

Identification Pearce (1957), p.24 (but note that *B. delaporti* has relatively stout antennae; the words "robust" and "slender" in Pearce's couplet 1 should be transposed).

Distribution Only known from the Windsor Forest area, Berkshire. The population is probably very small and localised, though it is apparently commoner than *B. buqueti*.

Habitat and ecology Associated with the ant *Lasius brunneus* (Latreille) and usually found only in the ants' nests, in the decaying wood of old deciduous trees. A predator, probably of mites. Adults have been collected in Britain in most months.

Status Like several other beetle species associated with *Lasius brunneus*, the only recorded site for *B. delaporti* in Britain is Windsor Forest. More than 200 individuals were collected by Donisthorpe between 1924 (when the species was first discovered in Britain) and 1939, from various *L. brunneus* nests. Specimens were taken on five occasions in May-June 1983 and April 1984 (J. A. Owen, pers. comm.). Five specimens were found in a *L. brunneus* nest in a large oak at Silwood Park, Ascot, Berkshire, in June 1964 (R. C. Welch, pers. comm.).

Threats Any threat to areas of ancient forest. The removal of dead timber, especially that occupied by *Lasius brunneus*.

Conservation Measures to conserve ancient forest and its dead wood fauna.

Author P. M. Hammond.

Claviger longicornis

ENDANGERED

Order **Coleoptera** Family **Pselaphidae**

Claviger longicornis Mueller, 1818.

Identification Pearce (1957), p.11.

Distribution Kirtlington (Oxfordshire), Sully (South Glamorgan), Box Hill (Surrey), and Wootton (Isle of Wight). The populations are probably small and very localised.

Habitat and ecology Found in the nests of the ants *Lasius umbratus* (Nylander) and *L. mixtus* (Nylander), which usually occur under deeply-embedded stones in limestone districts. Occasionally found in the nests of other *Lasius* species. Adults have been collected in Britain in the months May-June and August-October. Notes concerning the behaviour and general biology of *C. longicornis* are provided by Donisthorpe & Chapman (1913).

Status First discovered in Britain by J. J. Walker, who collected five individuals at Kirtlington in 1906. The species was found again at Kirtlington in 1913 and, in the same year, was collected in reasonable numbers at Box Hill. Further records are for Sully (1916) and Wootton (1928). No recent records for the species have been traced, but it is likely to persist in southern England, at suitable sites on limestone where the host ants are to be found.

Author P. M. Hammond.

Trox perlatus — ENDANGERED

Order **Coleoptera** — Family **Trogidae**

Trox perlatus Goeze, 1777, formerly misidentified in Britain as *T. hispidus* (Pontoppidan).

Identification Britton (1956), p.6 and fig.13.

Distribution Only known from Devon and Dorset.

Habitat and ecology In animal debris near the coast. Continental specimens have been found under the nests of birds-of-prey on the Atlantic cliffs.

Status Introduced as British in 1860 by Waterhouse, on the authority of specimens for which he did not know the locality. An old specimen collected by Rev. H. Matthews also existed without data (Fowler, 1887-91, 4:46). Pearce (1926) reported a single specimen collected by R. B. Benson at Tyneham, Dorset, on 8 August 1922, the identity of which was eventually settled by Allen (1967). P. Harwood (1929) collected small numbers of *T. perlatus* in the skins of two very young dead lambs on the cliffs above Worbarrow Bay near Lulworth Cove in March 1929 and April 1930 (A.B. Drane, pers. comm.), thus confirming this species as British. *T. perlatus* does not appear to have been recorded since and was not found during an intensive survey of the Lulworth Ranges by ITE in 1975.

Author R. C. Welch.

Aegialia rufa

ENDANGERED

Order **Coleoptera** Family **Scarabaeidae**

Aegialia rufa (F., 1792), formerly known as *Rhysothorax rufus*.

Identification Britton (1956), p.9.

Distribution Known from sandy coasts of the Liverpool district between the Rivers Ribble and Dee – Birkdale, Southport, Formby, Wallasey and New Brighton (Merseyside); and Barmouth (Meirionnydd). Adults occur during May and June with extreme irregularity, being abundant some years with only two or three (or none) recorded in other years.

Habitat and ecology Occurs on coastal sand dunes. Biology unknown.

Status First taken at New Brighton, Wallasey, in June 1862, and spasmodically taken in abundance (e.g. 1885, 1886 and 1905). Johnson (1962b) comments that *A. rufa* was apparently locally common on the Lancashire and Cheshire sandhills up to around 1906, but does not appear to have been recorded since then. He thought it possible that it could still occur around Birkdale but must be quite rare. Williams (1969) found a single specimen on the dunes at Formby on 12 July 1963 together with *A. arenaria* (F.), but no more were found during subsequent visits to the area. Jackson (1907) recorded a single dead *A. rufa* from Barmouth, its only other known locality in Britain.

Threats Urbanisation of coastal dunes and the development of golf courses.

Author R. C. Welch.

Aphodius brevis

A dung beetle

ENDANGERED

Order **Coleoptera** Family **Scarabaeidae**

Aphodius (*Ammoecius*) *brevis* Erichson, 1848.

Identification Britton (1956), p.22 and fig.42.

Distribution Known from Southport and Birkdale (Merseyside), Matlock (Derbyshire), Bewdley (Hereford & Worcester), and Pool (West Yorkshire). Very localised but may be abundant.

Habitat and ecology *A. brevis* is said to live on rabbits' dung and to excavate burrows about 4 cm long, into which it retreats in dry weather. Also recorded from partly dry cow dung. Recorded from coastal dunes and sandy localities inland.

Status First taken at Southport in May 1859 and certainly locally common on that coast up until 1913. Johnson (1962b) commented that the rabbit population had greatly diminished but was of the opinion that *A. brevis* probably still occurred at Southport but was most likely very localised. Fowler & Donisthorpe (1913) attribute the Matlock and Bewdley localities to Blatch. These are included by Joy (1932) but omitted by Britton (1956). Flint (1957) provides a more recent inland record of a single specimen collected on 6 May 1956 from a sand-bank on the River Wharfe at Castley Ford, near Pool, West Yorkshire.

Threats Loss of dune areas due to urban development, and the stabilisation of turf for golf courses.

Author R. C. Welch.

Aphodius niger — A dung beetle — ENDANGERED

Order **Coleoptera** — Family **Scarabaeidae**

Aphodius (*Nialus*) *niger* (Panzer, 1796).

Identification Britton (1956), p.22.

Distribution Only known from the Brockenhurst area of the New Forest (Hampshire).

Habitat and ecology In mud at the sides of ponds frequented by cattle and horses.

Status First recorded by D. Sharp from the New Forest in 1909, and taken the same year on the banks of a pond at Brockenhurst by G. C. Champion. It was present at the same locality spasmodically for at least thirty years. I have a specimen collected by W. West in June 1918, and the most recent records I know of are those of A. M. Massee from Balmer Lawn on 1 September 1931 and 10 April 1938, although it has almost certainly been taken there since. Hallett (1952) recorded *A. niger* from Treago Castle (Hereford & Worcester) in May 1942 and from flood refuse by the River Wye in 1946. Johnson (1962a) has since examined the specimens in the R. W. Lloyd collection and found the above two specimens and one labelled "22 September 1946 Ross flood" all to refer to *A. pusillus* (Herbst).

Author R. C. Welch.

Psammodius porcicollis

ENDANGERED +

Order **Coleoptera** Family **Scarabaeidae**

Psammodius porcicollis (Illiger, 1803).

Identification Britton (1956), p.23 and fig.51.

Distribution Known only from Whitsand Bay (Cornwall) and Pyle (Mid Glamorgan).

Habitat and ecology Sandy places on the coast, under stones, in vegetable debris and at the roots of low herbage, e.g. rest-harrow *Ononis*. Biology unknown.

Status J. J. Walker and others found a few specimens last century (1875-97) at Whitsand Bay, 6km from Devonport. One previous specimen was known from the Kirby collection mixed with *P. sulcicollis* (Illiger), but bearing no data (Fowler, 1887-91, 4:38). The only other known locality is in South Wales at Pyle, where J. R. le B. Tomlin recorded the species (Fowler & Donisthorpe, 1913). *P. porcicollis* does not appear to have been found in Britain for the past seventy years.

Author R. C. Welch.

Diastictus vulneratus

VULNERABLE

Order **Coleoptera** Family **Scarabaeidae**

Diastictus vulneratus (Sturm, 1805).

Identification Britton (1956), p.11; Harde (1984), fig. 237:3.

Distribution Near Brandon (?west Suffolk), near Icklingham, Foxhole Heath and Knettishall Heath (west Suffolk). Populations possibly cover substantial areas of open Breckland but are unlikely to be very large.

Habitat and ecology Restricted to sandy situations in mostly dry, open, heathy areas. Also sometimes found (in Continental Europe) on sandy river banks. Most British specimens have been collected from the entrances to rabbits' burrows or by pitfall trapping, but the species is also to be found under stones, in moss and ground litter. Several Continental records specify an association with the ant *Formica fusca* L., but an obligatory relationship with this ant would seem unlikely. Adults have been collected in Britain in the months April-June and September.

Status The first British find of this species was in 1902 at a site near Brandon. Further specimens were collected at the same site in 1906 and 1907, and two more were collected "near Brandon" in 1912. A single individual (the seventh British specimen) was found at Knettishall Heath in 1939. There appear to be no further British records until 1962, when M. G. Morris collected a single individual near Icklingham (for review of records to that date see Morris, 1963). The same collector trapped several individuals at Foxhole Heath in 1964. *D. vulneratus* is widely distributed in Continental Europe, but its overall range is of the 'Continental' type. In Britain, like several other beetle species of this type, it is probably restricted to the Breckland area.

Threats Any threat to the remaining areas of open Breckland in west Suffolk and west Norfolk.

Conservation Measures to conserve areas of open Breckland are needed.

Author P. M. Hammond.

Copris lunaris — Horned Dung Beetle — ENDANGERED

Order **Coleoptera** — Family **Scarabaeidae**

Copris lunaris (L., 1758).

Identification Britton (1956), p.9 and fig.12; Harde (1984), fig. 233:4. Larva: van Emden (1941), p.122.

Distribution Most recent records come from the North Downs of Surrey (the Godalming/Guildford area, 1903-17, and two or three sites in the Box Hill area, 1939-55), with two records from the Abingdon area of Oxfordshire (Tubney in 1913, Frilford Heath in 1942). Older records included several localities in south London (including Richmond Park), Shoreham and Chatham (Kent), Bungay and Ipswich (Suffolk), Bournemouth (Dorset), Bath (Avon), and Whitmore (Staffordshire) (Fowler, 1887-91, 4:10; Fowler & Donisthorpe, 1913, p.270). Colonies can be quite extensive, but it is many years since the species was found "in plenty" (Stephens, 1827-35, 3:171).

Habitat and ecology Occurs on well-drained, unploughed pastures, on either chalky or sandy soil. *C. lunaris* belongs to a group of scarabs remarkable for the parental care that they exhibit. The adults cooperate in excavating an oblique or vertical tunnel up to 10-20cm deep, under cow (or horse) dung, leaving a large cast on the surface. A large terminal brood chamber is prepared and furnished with four to seven brood balls of dung, and only one egg is laid on each ball. The female remains in the brood chamber until the new adults emerge three to four months later (Klemperer, 1982a, 1982b). Adults are usually seen in mid to late May (to July) and fly at dusk on warm evenings.

Status The sites in the Box Hill area are well-documented (Allen, 1956b), beginning with a specimen taken by A. M. Easton in 1939. In May 1948 L. S. Whicher and A. A. Allen took six adults in the same field, in the vicinity of shallow burrows in hard, chalky ground, and took a few more a few days later in another field in the area. On revisiting the site in subsequent years Allen and others failed to find further specimens. At 10.30pm on 27 May 1955 a male was taken in flight indoors at the nearby Juniper Hall Field Centre, but it appears that none have been recorded in Britain since that date. Like many scarabs, *C. lunaris* is much commoner in southern Europe and is on the edge of its range in Britain.

Threats Allen (1956b) cites the ploughing-up of its habitats, and drought rendering the ground too hard for burrowing. Over-collecting was discounted in view of the difficulty of extracting specimens at depth in stony soil.

Conservation If colonies are located the sites should be protected from ploughing. Grazing could be encouraged on unploughed downland such as Box Hill itself (a National Trust property), as the supply of dung is probably inadequate there at present (Allen, 1956b).

Author D. B. Shirt.

Gnorimus variabilis

A chafer **ENDANGERED**

Order **Coleoptera** Family **Scarabaeidae**

Gnorimus variabilis (L., 1758).

Identification Britton (1956), p.27; Harde (1984), fig. 243:8. Larva: van Emden (1941), p.126.

Distribution Known only from the London area up to 1908: Brixton, Penge, Tooting Common, Purley, Lee and Balham. There are recent records only from Windsor Forest (Berkshire). Has been recorded in considerable numbers at Brixton and Windsor, although such populations are very localised and may be restricted to a single tree.

Habitat and ecology Adults have been taken on flowers, but the larvae feed in black wood mould in the forks and hollow centre of old oaks *Quercus* and beeches *Fagus*.

Status First recorded from Penge in 1806, and 150 specimens were taken at Brixton in 1849. A damaged specimen was found on a path at Balham in 1898 and it was still present at Lee, Woolwich, around the turn of the century. In 1908 E. C. Bedwell rediscovered a quantity of larvae under the bark of one of the Purley oaks. *G. variabilis* was first taken at Windsor about 1811, then not again until 1898, and Donisthorpe found it for the first time on 24 July 1925.

Subsequently he found all stages in considerable numbers. The larva was collected at Windsor in June 1930. For a review of pre-war records see Allen (1960a). In May 1972 A. A. Allen and G. Shephard found larvae in a hollow beech in the High Standing Hill area of Windsor Forest. Larvae were also found by J. A. Owen in April 1984.

Threats The removal of ancient rotten oaks and beeches.

Conservation The Crown Estates Commissioners are aware of the importance of old trees at Windsor, both standing and fallen.

Author R. C. Welch.

Curimopsis nigrita

A pill beetle — **ENDANGERED**

Order **Coleoptera** — Family **Byrrhidae**

Curimopsis nigrita (Palm, 1934).

Identification Johnson (1978).

Distribution Only known in Britain from Thorne Waste, South Yorkshire. In Europe its known distribution is restricted to southern Sweden, Denmark and northern parts of Germany and Poland.

Habitat and ecology Apparently confined to lowland peat bogs in the presence of heather *Calluna*, unlike *Bembidion humerale* Sturm (also Endangered and known from Thorne Moors), which requires bare peat.

Status Known from a single female sieved from "vegetational debris in a boggy situation with heather and peat" on 15 April 1977 (Buckland & Johnson, 1983).

Threats Drainage and commercial peat extraction have greatly reduced what was the largest area of lowland peat bog remaining in England, and the threat persists.

Conservation Part of the moor is an NNR, although it is very doubtful whether management for such a localised species is possible.

Author R. C. Welch.

Normandia nitens

A riffle beetle — **VULNERABLE**

Order **Coleoptera** — Family **Elmidae (Elminthidae)**

Normandia nitens (Mueller, 1817).

Identification Holland (1972), p.24, figs 15 and 16.

Distribution The only confirmed records are from the River Severn catchment. For map see Holland (1980), p.10. Isolated populations at low densities: only single specimens have ever been captured.

Habitat and ecology Freshwater rivers. The larvae and adults are aquatic. Pupates in the river bank at the water's edge. The adults are flightless, and have been collected in the months July-September.

Status Prior to the publication of Holland (1972) all identifications have been made on the basis of unreliable external features. Examination of the genitalia of museum material has so far failed to confirm any old records. Modern records are limited to localities in Hereford & Worcester: the River Teme at Knightsford Bridge in 1965 and 1971, the River Wye at Symonds Yat in 1977, and again in the Teme near Bransford in 1980.

Threats Always under threat from accidental pollution to the river. There will be a long-term decline in water quality if present standards are not maintained.

Conservation The sites are not known to be specially protected. Normal water quality standards are maintained by Severn-Trent Water Authority.

Author D. G. Holland.

Stenelmis canaliculata

A riffle beetle **VULNERABLE**

Order **Coleoptera** Family **Elmidae (Elminthidae)**

Stenelmis canaliculata (Gyllenhal, 1808).

Identification Holland (1972), p.22, figs 13 and 14; also larva p.34 and pupa p.40.

Distribution Lake Windermere (Cumbria), the River Nene (Cambridgeshire), the River Lymn/Steeping (Lincolnshire), and the River Wye (Powys). For map see Holland (1980), p.11. Thinly distributed on the exposed shores of Lake Windermere. The river populations are probably at low density.

Habitat and ecology Stony lake shores and freshwater rivers. The larvae and adults are aquatic. The adults are flightless.

Status First recorded at Windermere in 1960 and taken on several occasions from then until the latest capture in 1978. Population numbers are apparently on the decline, as only three specimens were taken in 1978. The River Wye locality was found in 1983.

Threats Windermere is under threat of long-term eutrophication. River sites are always under threat of accidental pollution and long-term decline in water quality if present standards are not maintained.

Conservation The sites are not known to be specially protected. Normal water quality standards are maintained by the water authorities.

Author D. G. Holland.

Anthaxia nitidula

A jewel beetle **ENDANGERED**

Order **Coleoptera** Family **Buprestidae**

Anthaxia nitidula (L., 1758).

Identification Levey (1977), p.4; Harde (1984), fig.181:8, 9.

Distribution Only recorded from the Brockenhurst and Lyndhurst areas of the New Forest (Hampshire). The most recent record is 1954. It appears to be a very localised species.

Habitat and ecology Larvae develop beneath the bark of blackthorn *Prunus spinosa* and some other woody Rosaceae. Adults frequent the flowers of hawthorns *Crataegus*, roses *Rosa*, and buttercups *Ranunculus*. Adults have been collected from mid-May to late July.

Status At the extreme edge of its range in south-east England. The last three specimens were taken off hawthorn in June 1954 (Allen, 1955b).

Threats Changes to open areas of the New Forest with abundant woody Rosaceae, such as afforestation, would probably eliminate this species.

Conservation Preservation of the open nature of such areas as Balmer Lawn would probably favour this species.

Author B. Levey.

Agrilus pannonicus

A jewel beetle — **VULNERABLE**

Order **Coleoptera** — Family **Buprestidae**

Agrilus pannonicus (Piller & Mitterpacher, 1783), formerly known as *A. biguttatus* (F.).

Identification Levey (1977), p.4; Harde (1984), fig.183:4.

Distribution Sherwood Forest, near Ollerton, Nottinghamshire (last record in 1940); Bishops Wood, Batchworth, Hertfordshire (1953); Windsor Forest, Berkshire (1972 and 1984); Kingspark Wood, West Sussex (1977); and Richmond Park and Hampstead Heath, Greater London (both in 1984). There are old records from Darenth Wood (Kent), Cuckfield (Surrey), and the New Forest (Hampshire). The populations appear to be very localised.

Habitat and ecology The larvae develop in and under the bark of oaks *Quercus*. They appear to attack mainly old, dying and dead trees, and are probably confined to old woods with oaks. The adults have been collected in June and early July.

Status A widespread European species. It is probably confined to England in Britain, but its occurrence as far north as Sherwood Forest suggests that it is not at the edge of its range in Britain. Probably a restriction in habitat accounts for its localisation. The lack of recent records suggests that some of its former strongholds may have become unsuitable. Its present status needs to be investigated.

Threats Any threats to ancient forest, especially those containing oaks. The removal of dead timber and dying trees.

Conservation The conservation of ancient woodland.

Author B. Levey.

Agrilus sinuatus

A jewel beetle — **VULNERABLE**

Order **Coleoptera** — Family **Buprestidae**

Agrilus sinuatus (Olivier, 1790).

Identification Levey (1977). p.6 and fig.6; Harde (1984), fig.183:5.

Distribution South-eastern counties. The main strongholds appear to be the New Forest, Hampshire (last recorded in 1931), and Windsor Forest, Berkshire (last recorded in 1972). There are more recent records from various localities, e.g. Richmond Park, Greater London (1984). This appears to be a localised species. However, it may be overlooked because of the limited time that the adults are about in any one year.

Habitat and ecology The larvae develop in hawthorns *Crataegus*. The adults are mainly collected by beating hawthorns, and occur mainly in July and August.

Status This species is probably near the edge of its range in south-east England. Its rarity may be more apparent than real. It does not appear to be associated with old woodlands in particular.

Threats Since hawthorns are very widespread there does not appear to be any major threat to the species.

Author B. Levey.

Agrilus viridis — A jewel beetle — VULNERABLE

Order **Coleoptera** — Family **Buprestidae**

Agrilus viridis (L., 1758).

Identification Levey (1977), pp.4-6, figs 2 and 7.

Distribution The New Forest, Hampshire (recorded again in 1984); Ham Street Woods, Kent (last recorded in 1950); Capite Wood, Ashington, West Sussex (1978); and Wood Fidley (locality not known to me). Some other old records need confirmation. The populations appear to be localised.

Habitat and ecology The larvae develop in willows *Salix* and oaks *Quercus*. The adults have been collected in Britain from common sallow *Salix cinerea* from June to early August. The species is probably confined to areas with old sallows.

Status A widespread European species. It is probably confined in Britain to southern England. The reasons for its rarity are unknown.

Threats Any threats to areas with old sallow trees.

Conservation The conservation of areas containing sallows.

Author B. Levey.

Lacon querceus — A click beetle — ENDANGERED

Order **Coleoptera** — Family **Elateridae**

Lacon querceus (Herbst, 1784), formerly known as *Adelocera quercea* or *Agrypnus varius* (Olivier).

Identification Allen (1936). Larva: van Emden (1945), p.15.

Distribution Only known in Britain from Windsor Forest, Berkshire. Very localised, but occasionally fairly numerous in individual trees.

Habitat and ecology Breeds exclusively in red-rotten oak *Quercus*, in dead trunks (both standing and fallen) and large boughs, but apparently not in stumps. The adults may be nocturnal.

Status Stephens (1830) mentions one specimen taken at Windsor by J. H. Griesbach, a record treated with some doubt until Allen (1936) found a single specimen in a standing oak in Windsor Park on 12 September 1936. Van Emden (1945) used a larva collected by Donisthorpe that same month in constructing his key. It used to be found regularly over a wider area of the Park, but was not found in the Forest until Allen and Massee found many larvae and adults in an old log near High Standing Hill on 26 March 1951. After this *L. querceus* appears to have become rarer. In April 1972, P. Cook (in litt.) found two specimens in the same area of the Forest in a red-rotten oak bough which had fallen from 5m up the tree, where he found a further specimen in July.

Threats The loss of ancient, over-mature oaks, and the lack of suitable replacements. A survey in 1971 showed that all the old oaks in which *L. querceus* had been known to breed had been felled and burnt.

Conservation The known breeding area is within an SSSI notified in 1973. The Crown Estate Commissioners are aware of the value of ancient oaks. Excessive removal of dead wood, fallen boughs and ancient standing oaks should be prevented.

Author R. C. Welch, using information from Donisthorpe (1939, p.80), Allen (1966), and Welch (1972).

Ampedus cardinalis

A click beetle **VULNERABLE**

Order **Coleoptera** Family **Elateridae**

Ampedus cardinalis (Schioedte, 1865), formerly known as *Elater cardinalis* or *E. coccinatus* Rye, and much confused with *A. praeustus* (F.).

Identification Freude, Harde & Lohse (1964-83), 6:109-113. Larva: van Emden (1945), p.22 (as *E. praeustus*).

Distribution The Windsor area, Berkshire, is the chief station for this species in Britain today. It has been recorded this century from very few other localities, including Moccas Park (Hereford & Worcester), Parham Park (West Sussex), and Richmond Park (London).

Habitat and ecology In decayed oaks *Quercus*, mostly breeding in red-rotten wood. The adults remain in the pupal cells from September to April, and have been collected free from May to July.

Status Fowler (1887-91, 4:90) records it from Kensington Gardens (London), and Windsor and Sherwood Forests. Fowler & Donisthorpe (1913, p.274) add Waltham Abbey, Essex, but this locality has since been destroyed. In February 1928 Donisthorpe (1939) reared this species from larvae collected from Windsor in 1925, the first since 1867. P. Cook and A. A. Allen (in litt.) found adults and larvae independently in the same oak log in 1971. J. A. Owen (pers. comm.) considers that it is probably present in most old oaks with red-rotten wood in the Forest and Park. Elsewhere there are fairly recent records from Moccas Park, Parham Park (?1983), and Richmond Park (1983-84). Not apparently recorded from the New Forest or Epping Forest.

Threats The removal of ancient over-mature oaks and the lack of a suitable replacement generation.

Conservation The Windsor Forest (an SSSI) and Moccas Park (an NNR) sites have some protection. The removal of dead and fallen timber and the felling of over-mature oaks should be prevented.

Author R. C. Welch, using information from Allen (1966).

Ampedus nigerrimus

A click beetle **ENDANGERED**

Order **Coleoptera** Family **Elateridae**

Ampedus nigerrimus (Lacordaire, 1835), formerly known as *Elater nigerrimus*.

Identification Joy (1932), p.447. Larva: van Emden (1945), p.22.

Distribution Only known in Britain from Windsor Forest, Berkshire.

Habitat and ecology Breeds exclusively in decayed oaks *Quercus*, chiefly when red-rotten, in the trunks, logs, large boughs and stumps.

Status Hammond (1979) lists *A. nigerrimus* as found in Epping Forest since 1950. Van Emden (1945) based his larval description on two larvae, one from Windsor, 9 February 1867, and one from Mytchett, Hampshire, December 1942, from birch (E. A. J. Duffy). The latter is clearly not this species. Allen (1966) rejects any records outside the Windsor area with the exception of the old record of *A. nigrinus* (Herbst) collected by S. Stevens on Tooting Common (Fowler, 1887-91, 4:92), which he believes may have been *A. nigerrimus*. First discovered in Windsor Forest on 7 March 1841 by T. Desvigues and later that century by Charles Turner, it was not seen again until Donisthorpe (1939) found three adults and many larvae on 26 October 1925 in an old decayed oak. He also beat one from hawthorn and found one on an elder stem. Allen took it freely in two stumps, an old log, and a large standing oak in

the spring of 1951. Only one specimen has been found in the Park by C. Johnson (Allen, 1966). It appears to have increased slightly in numbers during the past thirty years or so (Allen, in litt.) and I have a specimen from the Cranbourne Chase area of the Forest collected on 7 April 1972. J. A. Owen (pers. comm.) took the species from an oak stump in the Forest in 1980-82, and from hawthorn blossom at another site in June 1982.

Threats The removal of ancient oaks and fallen timber.

Conservation The known breeding area is within an SSSI notified in 1973. Excessive removal of dead wood and ancient oaks should be prevented.

Author R. C. Welch.

Ampedus ruficeps

A click beetle **ENDANGERED**

Order **Coleoptera** Family **Elateridae**

Ampedus ruficeps (Mulsant & Guillebeau, 1855), formerly known as *Elater ruficeps*.

Identification Allen (1938). Larva: van Emden (1945), p.21.

Distribution Only known from a single adult and larva from Windsor Great Park, Berkshire.

Habitat and ecology Only known in Britain from a single decayed oak *Quercus*, but recorded from beech *Fagus* on the Continent. It breeds in wood mould in hollow oaks.

Status One adult and one larva were collected from wood mould in a cavity high in an oak in Windsor Park on 3 April 1938 by Allen (1938). This larva was used for the description by van Emden (1945). Allen (1966) searched the area for further specimens in succeeding years without success. I revisited the site with Allen in 1972 and could find no suitably rotten oaks in the vicinity, but it is always possible that it will be rediscovered elsewhere in the Forest.

Threats The original tree no longer exists.

Conservation Measures to conserve other Elateridae of old timber within the SSSI at Windsor may also protect this species. Further removal of ancient over-mature oaks should be prevented.

Author R. C. Welch.

Ampedus rufipennis

A click beetle — **VULNERABLE**

Order **Coleoptera** — Family **Elateridae**

Ampedus rufipennis (Stephens, 1830), formerly known as *Elater rufipennis*.

Identification Joy (1932), p.448. Larva: van Emden (1945), p.23.

Distribution Known only from very few scattered localities where its occurrence is erratic. In Windsor Forest and Great Park (Berkshire) it is widespread and may be fairly numerous. Elsewhere it is known from Moccas Park (Hereford & Worcester), and Great and Little Chart, Godmersham and Eastwell Park (Kent).

Habitat and ecology Breeds in decaying and rotten beech *Fagus*; occasionally in elm *Ulmus*, birch *Betula* and ash *Fraxinus*; in the trunks, logs and boughs, and more rarely in stumps. Once beaten from hawthorn blossom *Crataegus*.

Status Early records, as with many members of this genus, are confused and unreliable. Allen (1966) believes that Fowler's (1887-91, 4:89-90) record of *Elater lythropterus* Germar from Windsor may refer to this species, but credits N. H. Joy with the first genuine record about 1923; subsequently recorded by Donisthorpe (1939). P. Cook (in litt.) found adults and a number of larvae in a beech log at High Standing Hill, Windsor, in 1971 and 1973. J. A. Owen (pers. comm.) considers that it is probably present in most dead beech trees in the Forest and Park. Elsewhere it has been recorded at Moccas Park as recently as September 1968 by F. A. Hunter and P. Skidmore (Welch & Cooter, 1981). I know of no recent captures from any of the Kent localities.

Threats The removal of ancient trees, particularly over-mature beech.

Conservation The Windsor Forest area (an SSSI) and Moccas Park (an NNR) should afford some protection for this species. Excessive felling and removal of old trees should be prevented.

Author R. C. Welch.

Procraerus tibialis

A click beetle — **VULNERABLE**

Order **Coleoptera** — Family **Elateridae**

Procraerus tibialis (Boisduval & Lacordaire, 1835).

Identification Joy (1932), p.449. Larva: van Emden (1945), p.17.

Distribution Found in scattered localities from the New Forest (Hampshire) to Sherwood Forest (Nottinghamshire) and

Moccas Park (Hereford & Worcester). Also known from localities in the following counties: Buckinghamshire, Devon, Essex, Hertfordshire, Leicestershire, Northamptonshire, Surrey, Sussex and Wiltshire. It has always been very rare except at Windsor.

Habitat and ecology Breeds in hollow and decayed oaks *Quercus* and beeches *Fagus*.

Status This species has always been rare or very rare at all sites except Windsor Forest, where it is widespread. The larva upon which van Emden (1945) based his description was taken by Allen at Windsor in 1938. Donisthorpe (1939) recorded as many as fourteen specimens in a felled beech. It has apparently been recorded from many of the counties listed above during the past thirty years (Allen, in litt.), and most recently at Yardley Chase, Northamptonshire, by A. B. Drane on 2 June 1983.

Threats The loss of ancient trees and the lack of a suitable replacement generation.

Conservation There is some protection of the habitat at Moccas Park (an NNR) and Windsor Forest (an SSSI). Excessive loss of ancient trees in sites such as Windsor and Moccas should be prevented.

Author R. C. Welch, using additional information from Allen (1966, 1971b).

Megapenthes lugens

A click beetle **ENDANGERED**

Order **Coleoptera** Family **Elateridae**

Megapenthes lugens (Redtenbacher, 1842).

Identification Joy (1932), p.445. Larva: van Emden (1945), p.17.

Distribution There are old records from Highgate (London), and Box Hill, Stockwell and Mickleham (Surrey). There are records this century from the New Forest (Hampshire), Tewkesbury (Gloucestershire), Windsor (Berkshire) and Epping Forest (Essex).

Habitat and ecology Breeds in decaying elm *Ulmus* and probably also beech *Fagus*. The larvae feed in harder, drier wood than *Ampedus* species, etc. The adults are more often found on flowers, chiefly hawthorn *Crataegus*, once on holly *Ilex*, and once on nettles *Urtica* in flower.

Status The earliest British specimen dates from 1838, when C. Griesbach found it in Windsor Forest (Allen, 1964a). Of the 19th century records listed by Fowler (1887-91, 4:93-94), only at Highgate were about half-a-dozen specimens collected. All other records are of one or two individuals. This century Donisthorpe (1939) found *M. lugens* twice at Windsor in the 1930s and Allen (1964a, 1966) found two in their pupal cells in a wind-blown elm in Windsor Great Park on 5 March 1938. In 1970-71 P. Cook (in litt.) took several specimens on hawthorn blossom in the High Standing Hill area of Windsor Forest, and Allen reared one from a larva found in elm from the same locality in 1973. *M. lugens* has been recorded from the New Forest three times: Lyndhurst, May 1915, one on holly bloom (D. Cumming); Ashurst, 25 May 1946, two specimens (C. W. Henderson); and P. Cook saw one in Mallard Wood in 1971 on a beech on which *Eucnemis capucina* Ahrens (also Endangered) was found. H. W. Forster beat a single male from hawthorn blossom at High Beech, Epping Forest, in 1943 (Allen, 1964a). Allen also relates how G. H. Ashe mentioned seeing a specimen on an ash stump near Tewkesbury in the early 1950s. I have not heard of any recent records from the glut of felled elm available throughout southern Britain, confirming the rarity and localised nature of *M. lugens*.

Threats The widespread removal of dead elms in recent years following the epidemic of Dutch elm disease may well have destroyed unknown colonies, and certainly resulted in a loss of potential breeding sites.

Conservation The main locality at Windsor is offered some protection by the SSSI notification. Excessive removal of dead timber and over-mature trees should be prevented.

Author R. C. Welch.

Limoniscus violaceus

A click beetle **ENDANGERED**

Order **Coleoptera** Family **Elateridae**

Limoniscus violaceus (Mueller, 1821).

Identification Allen (1937b). Larva: van Emden (1945).

Distribution Now only known in Britain from Windsor Forest (Berkshire), and recently only from a single tree. A 1939 record from Tewkesbury (Gloucestershire) has been confirmed recently by H. Mendel. The adults emerge in late April or early May, and are nocturnal until July. The larvae are predatory.

Habitat and ecology Breeds in wood-mould in the bases of ancient hollow beech trees *Fagus*.

Status First recorded in Britain by Allen (1937b) from a single specimen collected in an old prostrate beech at High Standing Hill in Windsor Forest on 17 May 1937. In April 1947 A. A. Allen and B. A. Cooper found several larvae and a few adults in an adjoining part of the forest. All were in a mixture of wood and leaf-mould in hollow beech trees. These were later felled, sawn up and removed, and *L. violaceus* was not seen again until May 1972 when Allen and G. Shephard discovered larvae and one adult in wood-mould in the base of a hollow beech in the same area of the Forest. P. Cook (in litt.) found three larvae in the same tree later that year, to which he returned on a later visit but found none. J. A. Owen found single larvae in July 1981 and March 1983, and two adults in pupal chambers in a dead beech in February 1984.

Threats Several old beech trees in which *L. violaceus* had been known to breed have since been destroyed.

Conservation The location of the tree housing the only known breeding site of this species was notified in 1972. Further loss of ancient over-mature beech trees, particularly from the High Standing Hill area of Windsor Forest, should be prevented.

Author R. C. Welch.

Anostirus castaneus

A click beetle **ENDANGERED**

Order **Coleoptera** Family **Elateridae**

Anostirus castaneus (L., 1758), formerly known as *Corymbites castaneus*.

Identification Joy (1932), p.449. Larva: van Emden (1945), p.20.

Distribution There are old records, mostly of single specimens, from Mousehold Heath (Norfolk), the Isle of Wight, near Monmouth and the Forest of Dean (Gloucestershire), the Northumberland and Durham Coast, and Pateley Bridge and Harrogate (North Yorkshire). The only recent records of *A. castaneus* are from Luccombe Chine, Isle of Wight, and from near Harrogate (1984).

Habitat and ecology Under stones, on grasses, low plants, bushes, etc, and on bare sandy ground. The site near Harrogate consists of sandy areas between rocky outcrops at the top of gritstone crags. The larvae have been found in sand at the roots of isolated tufts of grass. There are several coastal records but it has also been found inland. Larvae have been fed on sprouting corn in captivity (Appleton, 1974).

Status There is an indication from old records that *A. castaneus* was, and may still be, established on the Northumberland/Durham coast and in the Monmouth/Forest of Dean area. Fowler & Donisthorpe (1913) record it from Shanklin and Sandown on the Isle of Wight, and on 21 March 1972 Appleton (1974) found a single female on damp sand at the foot of some cliffs on the south-east coast of the island (Luccombe Chine). In the following week he found two larvae at the roots of grass tufts, one near to where the adult was found and one on the top of the cliff. On 4 May he returned and found a dozen males crawling over the bare ground and on a grass tuft on a patch of bare undercliff just above high-tide mark. The species was still present at this site in 1977 and in April 1983, and it is thought likely that other very localised colonies exist on the island (Allen, in litt.).

Threats The area of the Harrogate site is being 'tidied up' by the local authority.

Conservation A section of the cliffs at Luccombe is owned by the National Trust.

Author R. C. Welch.

Elater ferrugineus

A click beetle **ENDANGERED**

Order **Coleoptera** Family **Elateridae**

Elater ferrugineus L., 1758, formerly known as *Ludius ferrugineus*.

Identification Joy (1932), p.445. Larva: van Emden (1945), p.18.

Distribution Old records indicate that *E. ferrugineus* was once more widely distributed in southern Britain. Fowler (1887-91, 4:94-95) gives Hyde Park and Richmond Park (London), Darenth Wood (Kent), Windsor (Berkshire), Clengre (?), Bottisham, Cambridge, Grantchester and Chesterton (Cambridgeshire), and Swansea (West Glamorgan). Fowler & Donisthorpe (1913) add Santon Downham (Suffolk). Only known this century from Windsor, where larvae may be locally common, and possibly Rochester (Kent) (see van Emden, 1945, p.34).

Habitat and ecology Breeds in decayed and rotten wood and mould in the interiors of old trees (trunks and boughs), chiefly elm *Ulmus*, beech *Fagus* and ash *Fraxinus*. Larvae are often found in rot-holes where there has been a nest. P. Cook (in litt.) found no evidence of larval carnivory.

Status Said by Stephens to have been taken at Windsor by Dr Leach; rediscovered there by Donisthorpe (1939) when he found eight larvae in the wood-mould of a felled ash on 23 July 1926. At present only found in Windsor Forest and the Great Park, but apparently widespread and well-established. Rarely found as an adult. On 4 August 1958 P. S. Tyler found a damaged specimen walking on a path. P. Cook has found adult fragments in wood-mould, and in 1975 found one adult and two pre-pupae with ninety larvae in recently-felled dead elms in Windsor Park, showing how difficult it is to assess the occurrence of such species. Some half-a-dozen adults were seen flying at midday on 31 July 1982 in a garden at West Windsor (Verdcourt, 1983). J. A. Owen (pers. comm.) found larvae in some numbers in wood-mould in a fallen beech in the Park in February 1984, and an adult in the Cranbourne Park area later in 1984.

Threats The felling and removal of old trees is evidently the greatest threat, as most records are of larvae in felled trees. P. Cook (*in litt.*) found five larvae in a heap of wood-mould which had been left after the tree had been sawn up and removed.

Conservation P. Cook reared adults from the larvae collected in 1975 and hoped to be able to reintroduce specimens into suitable habitats in Windsor Forest. Excessive removal of fallen and over-mature trees should be prevented.

Author R. C. Welch, using additional information from Allen (1966) and H. Mendel (pers. comm.).

Eucnemis capucina

ENDANGERED

Order **Coleoptera** Family **Eucnemidae**

Eucnemis capucina Ahrens, 1812.

Identification Joy (1932), p.443; Harde (1984), fig. 177:6. Larva: van Emden (1943), p.218 and fig.19.

Distribution Only known from the New Forest (Hampshire) and Windsor Forest (Berkshire), in very small localised populations.

Habitat and ecology Under the bark and in rotten wood of beech *Fagus* and other deciduous trees. Allen (1968) found pupae in March (the adults emerged in April) in mould beneath a fallen beech branch.

Status Long known from the New Forest, where most early specimens were collected from one old beech tree (Allen, 1966). Appleton (1972) refers to one taken in the New Forest by P. Harwood in 1936, and records two in June 1968, one in June 1969 and two in July 1971, all from inside the same rotten beech tree. Donisthorpe (1939) found it in Windsor Forest in June and August, one in an old ash tree, one by

sweeping and one in a hollow beech tree. P. Cook (in litt.) found four specimens running over freshly-sawn beech logs on 16 June 1973.

Threats The destruction and removal of ancient decaying trees.

Author R. C. Welch.

Hylis cariniceps — ENDANGERED

Order **Coleoptera** — Family **Eucnemidae**

Hylis cariniceps (Reitter, 1902), formerly known as *Hypocoelus cariniceps*.

Identification Allen (1969b).

Distribution Only known in Britain from one specimen from the New Forest, Hampshire.

Habitat and ecology Probably associated with ancient dead beeches *Fagus* like its Rare congener *H. olexai* (Palm).

Status The only British specimen, a female, was swept by D. Appleton near some old beech trees near Lyndhurst, New Forest, on 2 July 1966 (Allen, 1969b).

Threats The removal of standing and fallen old dead beech trees.

Conservation Ancient dead beech trees should be retained *in situ* as long as possible.

Author R. C. Welch.

Phosphaenus hemipterus — A glow-worm — ENDANGERED

Order **Coleoptera** — Family **Lampyridae**

Phosphaenus hemipterus (Goeze, 1777).

Identification Joy (1932), p.424; Harde (1984), fig. 165:6. Unlike the common glow-worm, *Lampyris noctiluca* (L.), the male has very short elytra and is flightless.

Distribution Mainly confined to East Sussex (Lewes, Hastings, Buxted and Chelwood Gate), though also known from Hampshire (Southampton). The populations must be small, as several years generally elapse between records.

Habitat and ecology Usually recorded in gardens and churchyards, where it frequents walls, rockeries, kerbs, etc. Most records refer to the male, which can be active by day; the larviform female is rarely seen, being located only by its faint luminescence

at dusk. As in the common glow-worm, both adults and larvae are believed to be predatory on snails. Adults are seen in June and early July.

Status The species was first discovered in Britain in Lewes in 1868, and for some years was only known from gardens there and in Hastings. One was found near Southampton in 1894, and seventy males were taken in a garden at Shirley Warren nearby on 21-25 June of the following year. There then appears to be a gap of fifty years until 1946, when Cribb (1946) took one in the churchyard of St Margaret's, Buxted. A series collected there in subsequent years is now in the Brighton Museum (P. Hodge, pers. comm.). The most recent record consists of two males taken in a garden at Chelwood Gate in Ashdown Forest on 3-6 July 1961 (Airy Shaw, 1961). The species is on the edge of its range in Britain.

Conservation If a new colony is located, collecting should be discouraged.

Author D. B. Shirt.

Platycis cosnardi

ENDANGERED

Order **Coleoptera** Family **Lycidae**

Platycis cosnardi (Chevrolat, 1829), formerly known as *Dictyopterus cosnardi*.

Identification Airy Shaw (1944); Freude, Harde & Lohse (1964-83), 6:12.

Distribution Only known from near Goodwood (West Sussex) and near Monmouth (in Gloucestershire).

Habitat and ecology Under bark or in rotten wood.

Status Known in Britain from only three specimens: Airy Shaw (1944) recorded two specimens taken in the garden of a house on the Staunton road, one mile or so east of Monmouth, on 6 and 29 May 1944. What may have been a third specimen was seen flying through the garden on 26 June. On 25 May 1969 Cooter (1973) took a single specimen in Red Copse, near Goodwood. The Monmouth site is on the periphery of the Forest of Dean with large oaks and beeches nearby, and the West Dean woodlands are close to the West Sussex locality.

Threats The Goodwood site was revisited in 1970 and found to have been clear-felled, sprayed and replanted with conifers.

Author R. C. Welch.

Globicornis nigripes

ENDANGERED

Order **Coleoptera** Family **Dermestidae**

Globicornis nigripes (F., 1792).

Identification Fowler & Donisthorpe (1913), p.134.

Distribution Only known from two sites, half a mile apart, on the periphery of Windsor Great Park, Berkshire (Allen, 1945 and 1947b), Slough (Woodroffe) and Tewkesbury, Gloucestershire (Fowler & Donisthorpe).

Habitat and ecology Adult beetles have been collected on various flowers from May to July and may be pollen feeders. Woodroffe (1971) bred this species on a mixture of fishmeal, dried yeast and cholesterol and a piece of cotton flock. Mature larvae were present by early November.

Status First recorded by Curtis in 1837 near Windsor. Blatch provided what Fowler & Donisthorpe (1913) believed to be the first possible indigenous record when he swept one at the side of a wood near Tewkesbury (date not known), but this species was not included by Joy (1932). In 1944 Allen found single females on 19 May and 11 June by sweeping under oaks in Windsor Forest. In 1946, within half a mile of the 1944 locality, he caught one male on 22 May and one female on 11 July, by sweeping the umbels of hogweed *Heracleum sphondylium* growing nearby under an oak. Allen (pers. comm.) took a series on 14 May 1948 by sweeping "hedge-parsley" (?*Anthriscus sylvestris*) flowers in a lane just outside Windsor Park. Further specimens were taken in Windsor Forest by Donisthorpe in 1949 and by Massee in 1950. On 5 June 1970 Woodroffe took thirteen specimens on the flowers of *Spiraea* and other shrubs in the grounds of the Pest Infestation Laboratory at Slough, Berkshire. The last specimen was taken by A. A. Allen off an old oak in Cranbourne Park, Windsor, in June 1971.

Author R. C. Welch.

Gastrallus immarginatus

ENDANGERED

Order **Coleoptera** Family **Anobiidae**

Gastrallus immarginatus (Mueller, 1821), formerly misidentified as *G. laevigatus* (Olivier).

Identification Donisthorpe (1936); Freude, Harde & Lohse (1964-83), 8:43; Harde (1984), fig. 213:2.

Distribution Only known in Britain from Windsor Forest, Berkshire.

Habitat and ecology Presumed to breed in small dead twigs of field maple *Acer campestre*, on which it has also been found in Sweden. Adults have been recorded in July and early August.

Status First recorded in Britain by Donisthorpe and Allen on a stack of oak, elm and beech logs. Donisthorpe (1936) notes that the beetle seemed to prefer to rest on the elm logs. Six specimens were found on 19 July 1936 and 18 more two days later. Allen (1954) beat one from the dead twigs of a field maple and swept two others in the vicinity of other maple trees. He later (Allen, 1956a) reports beating *Gastrallus* repeatedly from maple both in the Great Park and in Windsor Forest. Additional specimens were also obtained by sweeping beneath them. In an editorial footnote to Donisthorpe's (1936) paper, J. J. Walker states that there is a male *G. immarginatus* on an "English" pin in the Hope Collection at Oxford but bearing no data label.

Threats The removal of old field maple.

Author R. C. Welch.

Dorcatoma dresdensis

ENDANGERED

Order **Coleoptera** Family **Anobiidae**

Dorcatoma dresdensis Herbst, 1792.

Identification Joy (1932), p.461.

Distribution Only known this century from Windsor Forest (Berkshire), the New Forest (Hampshire), East Malling (Kent), Earith and Linton (Cambridgeshire), and Brighton (East Sussex).

Habitat and ecology Larvae in a tinder bracket fungus *Fomes fomentosus* collected off an old oak in April produced adults the following June.

Status E. W. Janson considered that this species was incorrectly recorded as British by Stephens, but K. G. Blair regarded the specimen in the Stephens Collection as *D. dresdensis* (pre-1858). Two specimens were collected by Power at Esher, Surrey, on 9 July 1870 and 8 July 1871. Donisthorpe (1928) reared a number of specimens in June 1925 from a bracket fungus collected in Windsor Forest on 22 April 1924. There are a further two specimens in the British Museum (Natural History) collection labelled "bred 6.38, Windsor". A. Massee bred three specimens from *Polyporus* from East Malling, Kent, on 10 June 1942, and there is a male from Enfield, London, collected by D. Sharp. A. A. Allen (in litt.) notes its occurrence near Cambridge (? Donisthorpe) and the New Forest (Forster, ex Massee). A specimen was taken at Linton, Cambridgeshire, on 7 May 1944 (P. S. Hyman, pers. comm.). G. B. Alexander took a series indoors at

Brighton in July 1955 (Booth Museum). J. A. Owen (pers. comm.) took specimens at Earith, Cambridgeshire, in June 1974, and in Windsor Forest in June 1982.

Threats The removal of dead oaks.

Author R. C. Welch.

Caenocara affinis

ENDANGERED

Order **Coleoptera** Family **Anobiidae**

Caenocara affinis (Sturm, 1837), formerly misidentified as *C. subglobosa* Mulsant & Rey.

Identification Joy (1932), p.461.

Distribution Only known from Barton Mills (Suffolk); Joy gives Norfolk in error.

Habitat and ecology In the puff-ball fungus *Lycoperdon perlatum* (=*L. gemmatum*).

Status Only known from three males and five females bred from larvae in puff-balls collected at Barton Mills, Suffolk, on 9 September 1917 (Donisthorpe, 1918).

Author R. C. Welch.

Ostoma ferrugineum

ENDANGERED

Order **Coleoptera** Family **Peltidae**

Ostoma ferrugineum (L., 1758).

Identification Lloyd (1953); Freude, Harde & Lohse (1964-83), 7:17. Larva: van Emden (1943), p.215.

Distribution Only known from the ancient Caledonian relict pinewood areas at Guisachan (Inverness, Highland) and Mar (Deeside, Grampian). Possible larval borings and adult exit holes have been seen at one or two other highland sites but the presence of *Ostoma* there has not, as yet, been confirmed.

Habitat and ecology The larvae feed in the heartwood and sapwood of Scots pines *Pinus sylvestris* that have been extensively rotted by the fungus *Phaeolus schweinitzii*. Larvae collected in early April pupated in late May. The adults are also to be found under pine bark in April and May.

Status Originally discovered by A. M. Robertson under the bark of a pine at Linn O'Dee, Braemar, Deeside, on 18 May 1952 (Lloyd, 1953). It has since been found between 1965 and 1969 by F. A. Hunter, C. Johnson and P. Skidmore to be well-established in large dead pines in Glen Quoich, Glen Derry and Glen Lui on the Mar Estate, and a single adult was found in Guisachan by Hunter in a recently-felled pine together with signs of much larval boring. *Ostoma* appears to have poor powers of dispersal and requires dead pines which have been left long enough for the associated fungus to rot the heartwood. Since any dead or fallen timber is viewed by most foresters as a potential source of insect pests, most is removed before it has reached a stage suitable for the larval development of this species. The shape of the exit holes is characteristic and the presence of the species at a site may be confirmed without destroying the habitat in searching for specimens.

Threats The removal of ancient rotten pines.

Conservation Estate owners and managers have been made aware of conservation requirements through meetings of the Native Pinewoods Discussion Group. Large fallen pines should be allowed to remain *in situ* to rot.

Author R. C. Welch, using additional information from Hunter (1977).

Hypebaeus flavipes

ENDANGERED

Order **Coleoptera** Family **Melyridae**

Hypebaeus flavipes (F., 1787), formerly misidentified as *Ebaeus abietinus* Abeille.

Identification Donisthorpe & Tomlin (1934); Blair & Donisthorpe (1943); Freude, Harde & Lohse (1964-83), 6:58; Harde (1984), fig. 169:4.

Distribution Only known from Moccas Park, Hereford & Worcester.

Habitat and ecology Associated with red-rotten oaks *Quercus*. Recorded from hornbeam *Carpinus* in Germany.

Status Originally described from three female specimens taken by J. R. le B. Tomlin on 26 June 1934 by sweeping under oaks at Moccas Park. In 1943 G. H. Ashe donated two pairs (from the same locality) from which Blair (1943) was able correctly to identify the species. In June and July 1975, using a sketch map indicating the position of the 'Ashe' oak, J. Cooter (1976) found *H. flavipes* to be reasonably common in the same tree some forty years after its discovery. Cooter has also beaten four specimens from two other oaks in Moccas Park but is of the opinion that, in addition to the 'Ashe' oak, it may be breeding in one other red-rotten oak in the southern end of the Park.

Threats The availability of suitable alternative host trees. The species is very vulnerable to bad weather, overcollecting, and tree damage/natural death (Cooter, pers. comm.).

Conservation The site is an NNR protected by a nature reserve agreement. Existing ancient oaks in Moccas Park should be retained, coupled with a policy of allowing some younger oaks to become over-mature.

Author R. C. Welch, using additional information from Welch & Cooter (1981).

Axinotarsus pulicarius

VULNERABLE

Order **Coleoptera** Family **Melyridae**

Axinotarsus pulicarius (F., 1777).

Identification Joy (1932), p.434; Harde (1984), fig. 169:9; Allen (1971d). This species is very difficult to distinguish from the common *A. marginalis* Lap., a recent addition to the British fauna.

Distribution Restricted to the south-east of England: the London area, Surrey, East Sussex, Kent and Essex. Formerly local and occasionally in numbers, but there are no recent records.

Habitat and ecology In open grassy areas, waste ground near the sea or inland, on herbage, flowers, etc.

Status Fowler (1887-91, 4:157) records *A. pulicarius* as local and not common from Wandsworth, Peckham and Walworth (London), Claygate (Surrey) and Charlton (Kent), but it has not been found there since. Fowler & Donisthorpe (1913, p.278) add Rye and near Hastings, East Sussex. E. C. Bedwell also took it at Lydd/Camber (Kent) in the 1920s or 1930s, and found 32 specimens at Wivenhoe near Colchester (Essex) on 30 June 1923 (Allen, in litt.).

Author R. C. Welch.

Lymexylon navale

VULNERABLE

Order **Coleoptera** Family **Lymexylidae**

Lymexylon navale (L., 1758).

Identification Joy (1932), p.429; Harde (1984), fig. 171:9. Larva: van Emden (1943), p.261 and fig.29.

Distribution There are recent records only for the Windsor Forest area (Berkshire), Richmond Park (London), the New Forest

(Hampshire), Hatfield (Hertfordshire), and Moccas Park (Hereford & Worcester). Local populations are often restricted to individual oaks.

Habitat and ecology Found in living and dead oak *Quercus* (Fowler, 1887-91, 4: 178). The larvae bore into the dead seasoned timber of dead standing oaks, usually at some distance above the ground.

Status At the end of the last century *L. navale* was common in Dunham Park, Manchester, and was also recorded from Bowden and Stretford, Manchester (Fowler, 1887-91). C. Johnson (1977) has collected extensively in Dunham Park in recent years but has not found *L. navale*. There is an old record from Portsmouth (Fowler, 1887-91) which may have been an import. Van Emden's larvae were described from specimens in imported oak. The species has been known from Windsor Forest since 1829. Recent records are from Silwood Park, near Ascot (Berkshire) in July 1963 (R. C. Welch). The latest record from Windsor is July 1981, by J. A. Owen, who also took the species in Richmond Park in August 1980. *Lymexylon* was first recorded in the New Forest in 1905, and has been taken in at least three localities there by D. Appleton between 1968 and 1974. P. Roche (1964a) caught a single specimen at Hatfield on 18 August 1963. J. Cooter (1976) caught a single gravid female at Moccas Park on 5 August 1975, the first record from this well-studied site, but the specimen recorded from Brampton Bryan Park in June 1981 (Cooter, 1981c) later proved to be *Hylecoetus dermestoides* (L.). This species may be under-recorded owing to its habit of frequenting dead wood well above ground level. The adults fly in the evening and may have a very short flight period.

Threats The felling and removal of dead standing old oaks.

Conservation The protection of stag-headed old oaks.

Author R. C. Welch, using additional information from Bedwell (1926).

Rhizophagus oblongicollis

ENDANGERED

Order **Coleoptera** Family **Rhizophagidae**

Rhizophagus oblongicollis Blatch & Horner, 1892, formerly misidentified as *R. simplex* Reitter.

Identification Peacock (1977), pp. 8-9 and 11, figs 11, 21 and 33.

Distribution Known from eight counties: Richmond Park (London), Epping Forest (Essex), Hatfield (Hertfordshire), Windsor Forest (Berkshire), Blenheim Park (Oxfordshire), Sherwood Forest (Nottinghamshire), Bagots Park (Staffordshire), and Ashstead Common (Surrey). The populations are very small and localised.

Habitat and ecology Under the bark of oak *Quercus* stumps or logs, or in fungi on stumps. There is one record from beech *Fagus*. Often recorded as single specimens, twice in colonies of *Rhizophagus ferrugineus* (Paykull).

Status *R. oblongicollis* has been recorded from only four localities this century. H. W. Forster (1955) found one in Epping Forest on 12 July 1943; A. A. Allen (1955a) records one from Blenheim Park on 18 April 1954 and mentions that the last time he found it in Windsor Forest was in 1953 where Donisthorpe (1939) had recorded it earlier. P. Roche (1964b) found six specimens at Hatfield on 14 September 1963. Allen again found several under bark in Windsor Forest and Park in July 1972. J. A. Owen (pers. comm.) took the species on Ashtead Common in April 1979 and at Windsor in March 1982.

Author R. C. Welch, using additional information from Tozer (1973).

Uleiota planata — VULNERABLE

Order **Coleoptera** — Family **Cucujidae**

Uleiota planata (L., 1761).

Identification Joy (1932), p.486.

Distribution Known from only five localities this century: Liss (Hampshire); Braemar (Deeside, Grampian); Silwood Park, near Ascot, and Swinley Park, near Bracknell (Berkshire); and Richmond Park (London).

Habitat and ecology Typically under the bark of beech *Fagus*, but recorded from birch *Betula* in Hampshire and one under pine *Pinus* bark in Deeside. The larvae have been found in August and September, and the teneral adult in late September.

Status The first record of *Uleiota* in Britain is of three specimens taken at Blackheath by J. W. Douglas, some time prior to E. C. Rye, who recorded adults and larvae under the bark of a large dead beech at Putney (?1866). Several specimens were recorded on imported timber at Carlisle by Day in 1906. On 19 February 1952 S. E. Allen found five specimens under the loose dry bark of a fallen dead silver birch *Betula pendula* near Liss, Hampshire, and two more specimens were collected a week later (Allen, 1953). On 25 May 1952 A. M. Robertson found a single specimen under the bark of a dead standing pine at Linn o'Dee, Braemar. On 21 September 1962 a male and female together with two larvae were found at Silwood Park, under the bark of a large beech felled in 1960. Four days later a further two males, five females and five larvae were collected from the same tree. On 15 August 1963 a single larva was found.

On 19/20 June 1982 H. Mendel found one under sycamore *Acer pseudoplatanus* bark in Richmond Park (Cooter, 1982). J. A. Owen (pers. comm.) found four specimens under the bark of a beech stump in Swinley Park in May 1983.

Threats The removal of large dead timber in ancient forest areas.

Author R. C. Welch, using additional information from Welch (1963).

Laemophloeus monilis

ENDANGERED

Order **Coleoptera** Family **Cucujidae**

Laemophloeus monilis (F., 1787).

Identification Champion & Lloyd (1909); Joy (1932), p.487; Lefkovitch (1959).

Distribution Known only from Arundel Park (West Sussex) and Streatley (Berkshire), in extremely local populations.

Habitat and ecology All English specimens have been taken from under the bark or cut ends of beech *Fagus*. On the Continent *L. monilis* is also found under the bark of plane *Platanus*. Lefkovitch states that it has been recorded from the cones of conifers, in the burrows of the bark beetle *Taphrorychus bicolor* (Herbst), on lime trees *Tilia* and under the bark of dead lime.

Status First found in Britain at Streatley by Joy and Chitty in October 1905. About a dozen specimens were taken from under beech bark and a few subsequently from the same tree. Ashe (1944) recorded *L. monilis* from a fallen beech in Arundel Park in October 1943; Allen (1950) found one there on 9 August 1949, and with A. Massee collected a further ten specimens on 12 September 1949. P. Hodge (pers. comm.) found it numerous under beech bark in Arundel Park on 16 July 1978.

Threats The removal of fallen and felled large beech trees.

Author R. C. Welch.

Leptophloeus clematidis

VULNERABLE

Order **Coleoptera** Family **Cucujidae**

Leptophloeus clematidis (Erichson, 1846), formerly known as *Laemophloeus clematidis*.

Identification Joy (1932), p.488; Lefkovitch (1959).

Distribution Only recorded this century from Higham (Kent) and near Ipswich (Suffolk).

Habitat and ecology A predator upon the bark beetle *Xylocleptes bispinus* (Duftschmid) in small dead stems of traveller's joy *Clematis vitalba*.

Status *L. clematidis* is known from old records for Gravesend and Dartford (Kent) and Henley (Oxfordshire) (Fowler, 1887-91, 3:299). Since J. J. Walker recorded it from Higham, Kent (Fowler & Donisthorpe, 1913, p.262), the only known locality is at Little Blakenham, near Ipswich, Suffolk. D. R. Nash (1980) collected twenty individuals on 17 April 1977 with its scolytid host, in 1cm-thick dead stems of *Clematis*. On 30 April 1978 one was found dead in a spider's web and three specimens were collected on 18 April 1979, all from the same site. Nash reports that both A. A. Allen and A. Massee failed to find this species in Kent, and he believes that it may be extinct in that county.

Author R. C. Welch.

Cryptophagus badius

VULNERABLE

Order **Coleoptera** Family **Cryptophagidae**

Cryptophagus badius Sturm, 1845.

Identification Coombs & Woodroffe (1955a), pp.260-261, figs 40, 76 and 120.

Distribution Only known from a 25km stretch of the Spey Valley (Highland Region), from Aviemore to Grantown-on-Spey. The population is small and extremely localised.

Habitat and ecology The only authentic British specimens are from the dreys of red squirrels *Sciurus vulgaris* and the nests of a sparrowhawk *Accipiter nisus*, an osprey *Pandion haliaetus* and an owl. The larva is unknown.

Status All early records refer to *C. postpositus* Sahlberg, short-haired *C. pilosus* Gyllenhal, or some other species (Coombes & Woodroffe, 1955a). In 1955 the only known British specimens were those collected by P. Harwood from red squirrels' dreys between September 1924 and July 1925 at Nethy Bridge, Loch Garten, Boat of Garten and Aviemore (Welch, 1979a). There are also specimens from Aviemore dated June 1930 and one later specimen from Kincraig dated 28 August 1952. Small numbers were extracted from a sparrowhawk's nest collected at Polchar, near Aviemore, on 6 September 1966 (Welch, 1979a); five were obtained from osprey nest material collected at Loch Garten in November 1979, and one from an owl's nest nearby in July 1979 (Carter *et al*, 1980). J. A. Owen (pers. comm.) continued finding specimens at Loch Garten up to 1983. Recent examination of a number of sparrowhawks' nests from Dumfries & Galloway,

Anglesey and Windsor Forest (Berkshire) has failed to produce further specimens.

Conservation The Loch Garten population is well protected by RSPB wardening of the osprey nest site.

Author R. C. Welch.

Cryptophagus falcozi

ENDANGERED

Order **Coleoptera** Family **Cryptophagidae**

Cryptophagus falcozi Roubal, 1927, formerly known as *C. westi* Bruce.

Identification Coombs & Woodroffe (1962); Freude, Harde & Lohse (1964-83), 7:128.

Distribution Only found three times out-of-doors in Britain, in Windsor Forest (Berkshire).

Habitat and ecology In fungus, on the infected wood of dead beech *Fagus*.

Status First recorded in Britain from a single male found alive in one of six new insect store-boxes delivered to the Pest Infestation Laboratories at Slough (Berkshire) from a North London manufacturer in the summer of 1962. On 29 January 1981 J. A. Owen (1982a) found one male and four females in an old beech trunk in Windsor Forest. He took further specimens in the Park in June 1982 and in the Forest in August 1982 (pers. comm.). The specimens of *C. westi* described by Bruce from four females collected in Denmark in 1940 were found in fungi on dead rotting beech. Owen considers that the Windsor specimens represent an old forest relict and not a recent introduction.

Threats The removal of dead timber.

Conservation The preservation of ancient beech and oak in Windsor Forest.

Author R. C. Welch.

Cryptophagus labilis

ENDANGERED

Order **Coleoptera** Family **Cryptophagidae**

Cryptophagus labilis Erichson, 1846.

Identification Coombs & Woodroffe (1955a), p.251, figs 18, 60 and 103.

Distribution Only known in Britain from Moccas Park (Hereford & Worcester), and from Cambridge.

Habitat and ecology Under bark and in rotten wood and old stumps. The larva is unknown.

Status Coombs & Woodroffe (1955a) give Moccas Park (G. H. Ashe) and Cambridge, Trinity Fellows' Garden, under bark (University Museum collection) as the only known localities. However, in a later paper (1955b) they state "a few examples from Moccas Park, Herefordshire (Coll. G. H. Ashe) and an occasional specimen in other collections". Massee (1964), presumably referring to the Ashe records, describes *C. labilis* as very local, under bark and in old stumps.

Conservation Moccas Park is now an NNR, and the importance of dead wood to its insect fauna is known by the present owner.

Author R. C. Welch.

Cryptophagus lapponicus

VULNERABLE

Order **Coleoptera** Family **Cryptophagidae**

Cryptophagus lapponicus Gyllenhal, 1827.

Identification Coombs & Woodroffe (1955a), p.255, figs 30, 83 and 117.

Distribution Only known from the Aviemore area of Speyside (Highland). The population is very small.

Habitat and ecology The only authentic British specimens are from the dreys of red squirrels *Sciurus vulgaris*, the nest of a sparrowhawk *Accipiter nisus*, and possibly in fungi. The larva is unknown.

Status Most early specimens examined by Coombs & Woodroffe (1955a) proved to be *C. subfumatus* Kraatz, but they found a long series in the P. Harwood collection taken between September 1924 and July 1925 from red squirrels' dreys at Aviemore. Although Coombs & Woodroffe state "This remarkable series consisted of about equal numbers of *badius* and *lapponicus*", C. O'Toole has been unable to find any specimens of *C. lapponicus* in the Hope Department, Oxford. The Harwood collection in the British Museum (Natural History) contains three specimens, two from A. M. Massee's collection from Boat of Garten (7 September 1924) and one from Aviemore (June 1930). Coombs & Woodroffe also identified a single specimen from Aviemore in the G. C. Champion collection (Welch, 1979a). On 6 September 1966 small numbers of *C. lapponicus* were extracted from a sparrowhawk's nest collected at Polchar, near Aviemore. With the subsequent deaths of W. O. Steel and G. E. Woodroffe it has not been possible to trace specimens in their collections and the only extant specimen is in my collection (Welch, 1979a). A number of

sparrowhawks' nests have since been examined from Dumfries & Galloway, Anglesey and Windsor Forest, Berkshire, but no further specimens have been found.

Author R. C. Welch.

Atomaria reitteri

ENDANGERED

Order **Coleoptera** Family **Cryptophagidae**

Atomaria (*Anchisera*) *reitteri* Loevendal, 1892.

Identification Allen (1968); Freude, Harde & Lohse (1964-83), 7:141-147. Confused in collections with *A. atra* (Herbst).

Distribution Known in Britain from Wicken Fen (Cambridgeshire) and Yarnton (Oxfordshire). Only found singly, on four occasions.

Habitat and ecology A northern European species of marsh litter and pond margins.

Status The earliest known British specimen was taken by Dr Crotch near Cambridge last century as *A. atra* (Herbst), which was misspelt as *A. atrata* in the Omer-Cooper & Tottenham (1932) list of Coleoptera from Wicken Fen (if that indeed was where it was found). P. Harwood found it at Wicken Fen on 10 November 1912 and in April 1925. The only other known specimen was collected by J. Collins in a marshy place at Yarnton (Allen, 1968).

Conservation Wicken Fen is a property of the National Trust.

Author R. C. Welch.

Clitostethus arcuatus

A ladybird

ENDANGERED

Order **Coleoptera** Family **Coccinellidae**

Clitostethus arcuatus (Rossi, 1794).

Identification Pope (1952), p.4; H. Fuersch *in* Freude, Harde & Lohse (1964-83), 7:256.

Distribution The only old (pre-1900) record is from Shenton Hall, near Market Bosworth, Leicestershire, 24 August 1872 (a single specimen collected by Wollaston and quoted by Fowler (1887-91, 3:172)). Post-1900 records are: Stonor Park, Berkshire, 6 August 1915 (six specimens in the Donisthorpe collection, BM(NH)); Henley-on-Thames, Oxfordshire, 1915 (seven specimens collected by H. F. Perry and in the BM(NH)); and Oxford in 1979 and 1980. The populations

are probably very small and extremely local as a rule, with occasional upsurges as in 1979 and 1980.

Habitat and ecology Recorded in Britain on old ivy *Hedera* (Fowler, 1887-91), and on bushes of *Viburnum tinus* infested with whitefly (Mills, 1981). Most host records from the Continent (Horion, 1961) refer to ivy, but Reitter (1911) says that it is found, both as larva and adult, feeding on woolly apple aphid *Eriosoma lanigerum* (Hausmann) on apple and other fruit trees, a statement viewed with some suspicion by the present author.

Status Very small and may easily be overlooked. Britain may represent the northernmost limit of its distribution. The only record in recent years is by Mills (1981 and pers. comm.), who recorded breeding colonies at Oxford in 1979 and 1980, but they were not found by him in 1981.

Author R. D. Pope.

Nephus quadrimaculatus

A ladybird **VULNERABLE**

Order **Coleoptera** Family **Coccinellidae**

Nephus quadrimaculatus (Herbst, 1783).

Identification Pope (1973), pp.12-14; H. Fuersch *in* Freude, Harde & Lohse (1964-83), 7:253.

Distribution Old (pre-1900) records are: Woodditton, Cambridgeshire, 1827; Norfolk, 1895; Coddenham, Suffolk, 1894 and 1895; and near Manchester, 1869. Recent (post-1900) records are: Frostenden, near Southwold, Suffolk, 1934 and 1938, and near Stowmarket, Suffolk, 1981. The populations are probably very small as a rule, with very rare upsurges.

Habitat and ecology Recorded in Britain on pine *Pinus* in 1894 and 1895, and on ivy *Hedera* in 1937 and 1981. Horion (1961) associates the species with oak *Quercus* in southern Europe and ivy in France, and gives as a prey species the coccid bug *Phenacoccus aceris* (Signoret).

Status Small and easily overlooked other than during specialist collecting. The only record in recent years is by H. Mendel (pers. comm.), who found the species in profusion on ivy at Badley Church near Stowmarket on 5 September 1981. The species is said to be very common in France (Gourreau, 1974) and is generally distributed throughout the southern Palaearctic (Horion, 1961).

Author R. D. Pope.

Lycoperdina succincta

VULNERABLE

Order **Coleoptera** Family **Endomychidae**

Lycoperdina succincta (L., 1767).

Identification Joy (1932), p.496.

Distribution The Barton Mills district and Mildenhall (Suffolk); near Thetford (Norfolk) and Thetford Heath (Suffolk). There is now probably only a single Breckland population, of limited size.

Habitat and ecology The adults and larvae are found in various puffball fungi, on which they feed. The only British record for a named fungus cites *Lycoperdon gemmatum*; in Continental Europe *L. succincta* has been found in *Bovista nigrescens*, as well as *Lycoperdon* species. Larvae and pupae have been found at the beginning of May, with adults emerging in early June, and larvae and pupae have also been found in October. The adults are known to overwinter in decaying puffballs. Adults have been collected in Britain in the months September to November.

Status *L. succincta* was first collected in Britain by G. W. Nicholson, who found fifteen specimens at Barton Mills in 1916. The species was taken there again in 1917 and has been found in the same district as recently as 1981. Other captures may have been made at Barton Mills in the intervening years. *L. succincta* has also been collected at three other Breckland sites: Mildenhall, October 1923 (C. E. Stott) and October 1924 (E. C. Bedwell); near Thetford, 1943 (S. O. Taylor); Thetford Heath, 1979, in numbers (H. Mendel). The general distribution of this species is of the 'Continental' type; there are no records for Norway, Belgium or western France. In Britain it is probably confined to the Breckland area, where several beetle species of this type have their north-western outpost.

Threats Any threat to the remaining areas of open Breckland in west Suffolk and west Norfolk.

Conservation Measures to conserve open areas of Breckland.

Author P. M. Hammond.

Enicmus rugosus

VULNERABLE

Order **Coleoptera** Family **Lathridiidae**

Enicmus rugosus (Herbst, 1793).

Identification Joy (1932), p.511.

Distribution Formerly recorded on a number of occasions from Sherwood Forest (Nottinghamshire) and Epping Forest (Essex) but there are few recent records for England. It is probably more widespread in the ancient Caledonian pine forests of Scotland (a similar distribution to the Endangered ptiliid beetle *Ptinella limbata* (Heer)).

Habitat and ecology Found under bark or associated with powdery fungi on old trees, mainly oak *Quercus*, but also recorded from ash *Fraxinus* and beech *Fagus* in England, and alder *Alnus* and pine *Pinus* in Scotland.

Status Fowler (1887-91, 3:284) records *E. rugosus* as very rare from Loughton (Essex), Sherwood (Nottinghamshire), Salford Priors (Warwickshire), Cannock Chase (Staffordshire) and Aviemore on Speyside, Scotland. Hammond (1979) notes post-1950 records from Epping Forest. Although it is not listed by Donisthorpe (1939), C. Johnson (in litt.) includes Windsor Forest as a locality, and A. A. Allen took it there in October 1971. J. A. Owen (pers. comm.) found it in Windsor Great Park in August 1981 and at Wisley Common (Surrey) in February 1984. Apparently not recorded from the New Forest. It has always been rare but may have declined in England. In Scotland, it may be widespread in the older forests of the Highlands (Ashe, 1952; Hunter, 1977).
P. Hodge (pers. comm.) records it from a plantation near Dulnain Bridge on Speyside, 10 July 1979, and J. A. Owen (pers. comm.) has taken it at Loch Garten, Speyside, 1979-83.

Threats The removal of ancient trees.

Author R. C. Welch.

Corticaria fagi

VULNERABLE

Order **Coleoptera** Family **Lathridiidae**

Corticaria fagi Wollaston, 1854, formerly known as *C. aequidentata* Allen.

Identification Johnson (1974).

Distribution Only known in Britain from Windsor Forest (Allen, 1937a).

Habitat and ecology Its biology is unknown, but it is probably associated with the old mouldy dead wood of broadleaved trees.

Status Known in Britain only by the unique type of *C. aequidentata* which Allen collected in July 1936 by sweeping round a stack of cut timber in the evening. Johnson regards it as "an extremely rare species of wide but sporadic occurrence" throughout Europe.

Threats The removal of dead wood and decaying ancient trees.

Conservation Maintenance of ancient forest areas with over-mature trees and dead wood.

Author R. C. Welch.

Corticarina latipennis

ENDANGERED

Order **Coleoptera** Family **Lathridiidae**

Corticarina latipennis (Sahlberg, 1871), formerly known as *C. fowleriana* (Sharp).

Identification A. von Peez *in* Freude, Harde & Lohse (1964-83), 7: 88-189.

Distribution Only known by three specimens from Braemar, Deeside (Grampian Region).

Habitat and ecology Associated with ancient Scots pine *Pinus sylvestris*, and spruce *Picea* in Scandinavia.

Status Originally described as *Corticaria fowleriana* by D. Sharp from a specimen collected at Braemar in June 1871. On 22/23 July 1970 C. Johnson (1976b) sieved two males from refuse at the side of a burn in Glen Lui, Braemar. In Scandinavia it is known to have a north-eastern distribution, as it is not found south of 69° 30' N or west of 23° E.

Author R. C. Welch.

Teredus cylindricus

ENDANGERED

Order **Coleoptera** Family **Colydiidae**

Teredus cylindricus (Olivier, 1790), formerly known as *T. nitidus* (F.).

Identification Joy (1932), p.517.

Distribution Only known from the Windsor Forest area (Berkshire) and Sherwood Forest (Nottinghamshire). The populations are very localised but it may be relatively common where found.

Habitat and ecology Under the bark of old oaks *Quercus*, sweet chestnut *Castanea* and other trees. It is often found in association with

nests of the ant *Lasius brunneus* (Latreille), or borings of the bark beetle *Dryocoetinus villosus* (F.) and various anobiid beetles, etc.

Status *T. cylindricus* was recorded twice from Sherwood Forest, in 1839 by Stephens, and again in 1884 by Blatch (Carr, 1916), before its discovery in July 1925 in Windsor Forest by Bedwell and Donisthorpe (Donisthorpe, 1939). On 24 June 1964 one was found in the bark of a large wind-blown oak at Silwood Park, near Ascot, Berkshire. Many specimens were subsequently collected at night on the cut ends of the trunk and main branches. A single specimen was also found on 23 June 1971 under the bark of a felled sweet chestnut in Windsor Forest (R. C. Welch), a host tree noted by Donisthorpe, and J. A. Owen (pers. comm.) has taken it from old and dead oaks in the Great Park, 1982-84. There are no recent records known from Sherwood but it is probably widely distributed in the Windsor Forest area.

Threats The removal of dead wood and the felling of ancient oaks, etc.

Author R. C. Welch.

Diaperis boleti — VULNERABLE

Order **Coleoptera** — Family **Tenebrionidae**

Diaperis boleti (L., 1758).

Identification Brendell (1975), p.11; Harde (1984), fig. 227:9.

Distribution There are early records (pre-1891) from Hastings, East Sussex; Barham, east Suffolk; Sherwood, Nottinghamshire; and Dalston, Cumbria (also 1907). It was rediscovered in the area of the Hampshire-Dorset border (Ringwood district 1952, Soply 1956 and West Parley 1953-55). At the time of its rediscovery small local populations were apparently quite well-established. It was found in Cambridgeshire in 1985 (R. S. Key, pers. comm.).

Habitat and ecology In brackets of the fungus *Piptoporus betulinus* on birch *Betula*. On the Continent it has been found in a number of other Polyporaceae such as *Fomes fomentarius*, *Laetiporus sulphureus*, *Polyporus squamosus* and *Coriolus versicolor* on beech *Fagus*, oak *Quercus* and conifers. The adults and larvae apparently feed on the soft fleshy part of the fungus just above the gills. Pupation takes place in a roomy excavation within the fungus. The larva has been observed to construct this chamber and to use the debris of excavation to reseal the exit hole which it makes for later use. Pupae are found in late summer and winter, and development takes one year.

Status Sankey collected fifteen examples in June 1956, A. M. Massee ten examples in August 1953, and "good series" were reported by Basker in 1952 and by Harwood in June 1953.

Threats Habitat destruction and over-collecting.

Conservation The preservation of dead and dying trees. Public access should be limited. The most recent records are from an NNR.

Author M. J. D. Brendell, using additional information from Sankey (1956), Benick (1952) and Palm (1959).

Platydema violaceum

ENDANGERED +

Order **Coleoptera** Family **Tenebrionidae**

Platydema violaceum (F., 1790).

Identification Brendell (1975), p.11.

Distribution In the New Forest, Hampshire, up until 1901. At Juniper Hall Field Centre near Dorking, Surrey, a single example was taken at light by J. Sankey in August 1957.

Habitat and ecology In fungi (*Auricularia auricula-judae* and *A. mesenterica*) on elder *Sambucus* and elm *Ulmus*. Also under the fungoid bark of rotten beech *Fagus* and oak *Quercus* and especially in fungi on the latter. In Britain the only records are from under the bark of oak and at light. The larvae and adults are found in the outer, more rotten parts of *Auricularia*, the fungus appearing eaten away at the edge. Pupation takes place in the fungus.

Status Believed extinct. Historically found in the New Forest, it was rediscovered there by Donisthorpe and Gorham, who found seven examples under the bark of a felled oak in August 1901. It has not been found there since.

Conservation Preservation of the localities in which this species has been found. The removal of dead and fungoid timber from recorded localities should be controlled.

Author M. J. D. Brendell, using additional information from Fowler & Donisthorpe (1913), p.295, Allen (1958), Benick (1952) and Palm (1959), p.299.

Prionychus melanarius

VULNERABLE

Order **Coleoptera** Family **Tenebrionidae**

Prionychus melanarius (Germar, 1813), formerly misidentified in Britain as *P. fairmairei* Reiche.

Identification Buck (1954), p.5.

Distribution Ollerton, Nottinghamshire, in a remnant of Sherwood Forest; Staverton Park and neighbouring Rendelsham Forest, Suffolk; Arundel Park, West Sussex; and Norton, Gloucestershire. Very local but well-established.

Habitat and ecology A nocturnal, ancient forest species. The adults and larvae are found in dry frass under loose bark and in the rotten wood of old oak *Quercus* and birch *Betula*. It has also been found in numbers in an old ash *Fraxinus* and in elm *Ulmus*. Usually found as larvae.

Status Confined to ancient forest remnants in four of the localities given above. It is still plentiful at Ollerton and Staverton Park. The records from Rendelsham are based on reared adults collected as larvae in May 1961 and June 1962. These were found in a rotten birch stump that remained after the existing woodland had been felled and planted with conifers. The continued presence of the species at Rendelsham is therefore doubtful. The records from Norton are also based on larvae, taken by J. A. Owen in August 1983 and July 1984 and reared to adult.

Threats The destruction of ancient forest and the removal of old, dead or dying oaks and birches.

Conservation Some of the sites are already protected and suitably managed. More protected areas are required, and dead and dying oaks and birches should be retained.

Author M. J. D. Brendell, using additional informtion from Bedwell (1923), Johnson (1976a), Mendel (1979 and pers. comm.) and Nash (1982, misidentified as *P. ater* (F.)).

Omophlus rufitarsis

ENDANGERED

Order **Coleoptera** Family **Tenebrionidae**

Omophlus rufitarsis (Leske, 1785).

Identification Buck (1954), pp.4-5.

Distribution Only known from Chesil Beach, Portland and Weymouth, in Dorset.

Habitat and ecology Found on the flowers of thrift *Armeria maritima* in June and July. (At variance with observations in Britain, it is recorded from southern and central Europe occurring on "flowering bushes" and "ears of corn".)

Status The last record had been in 1926 (C. E. Tottenham), until C. Johnson found a pupa at Weymouth some years ago (P. Hodge, pers. comm.).

Threats Environmental disturbance.

Conservation The protection of Chesil Beach and cliffs from disturbance.

Author M. J. D. Brendell, using additional information from Fowler (1887-91, 5: 32) and Freude, Harde & Lohse (1964-83, 8: 227-229).

Abdera affinis

ENDANGERED

Order **Coleoptera** Family **Melandryidae**

Abdera affinis (Paykull, 1799).

Identification Buck (1954), p.9.

Distribution Known in Britain only from Strathspey, Highland Region.

Habitat and ecology In fungus on trees (pines?).

Status Originally taken by C. G. Lamb in July 1905 in fungus on trees at Nethy Bridge, and subsequently at the same locality by Col. Yerbury.

Author R. C. Welch, using additional information from Fowler & Donisthorpe (1913, p.176).

Hypulus quercinus

VULNERABLE

Order **Coleoptera** Family **Melandryidae**

Hypulus quercinus (Quensel, 1790).

Identification Buck (1954), p.8.

Distribution Known this century in Britain only from Bickleigh (Devon), Darenth Wood (Kent), and Monks Wood (Cambridgeshire).

Habitat and ecology In the decaying wood of oak *Quercus*, hazel *Corylus* and birch *Betula*. The larvae have also been recorded from ash *Fraxinus* on the Continent.

Status Although rare in the last century it had been recorded widely over southern England: Darenth Wood (Kent); Coombe Wood and Godstone (Surrey); Colney Hatch

(London); Plumstead Wood, Woolwich (London); Rusper, near Horsham (West Sussex); Woodditton (Cambridgeshire); Leigh Woods, Bristol; and Dorset (A. Ford); but not, surprisingly, from the New Forest or Windsor Forest. Allen (1947a) reports how Mitchell swept one from a hedge at Bickleigh, south Devon, on 26 May 1917, the first record since 1880. Tozer (1947) describes how K. J. Clark beat a single *H. quercinus* from a half-rotten hazel branch lying on the ground. In 1946 Allen collected two specimens in Darenth Wood, Kent, by beating young saplings, one off birch on 7 June and one off oak, a few hundred yards away on 14 June. On 6 June 1975 a single specimen was swept beneath an ash in a narrow ride in Monks Wood (Welch, 1977).

Threats The removal of dead wood and the loss of ancient hazel coppice.

Author R. C. Welch.

Melandrya barbata

ENDANGERED

Order **Coleoptera** Family **Melandryidae**

Melandrya barbata (F., 1787), formerly misidentified in Britain as *M. dubia* (Schaller).

Identification Buck (1954), p.7, fig. 7.

Distribution Only known in Britain from the New Forest (Hampshire) and Chiddingfold (Surrey).

Habitat and ecology In decaying timber, mainly oak *Quercus* and beech *Fagus*.

Status *M. barbata* has occurred in the New Forest at wide intervals of time since it was first discovered there in June 1823. Fowler & Donisthorpe (1913, pp.175-176) reported that about six specimens had been taken in 1901 by various collectors. Buck (1952) clarifies the inclusion of *M. dubia* by Joy (1932) based on a J. J. Walker specimen collected at Burley Lodge (New Forest) on 26 May 1923, now in the G. C. Champion collection. Buck considers Joy's record for Berkshire to be an error since no specimens exist in his collection. Similarly Allen (1973) rejects the Oxfordshire locality for *M. barbata* given by Buck (1954). Allen (1973) mentions a specimen in the Power Collection taken by C. Waterhouse at Brockenhurst in 1902. Allen (1973) recounts how in 1935 Walker told him he had taken a few specimens that year in Denny Wood. On 31 May 1971 P. J. Hodge caught a single specimen on a nettle leaf in the wooded district of Chiddingfold, Surrey (Allen, 1973).

Threats The removal of dead timber.

Author R. C. Welch.

Anaspis schilskyana

ENDANGERED

Order **Coleoptera** Family **Scraptiidae**

Anaspis schilskyana Csiki, 1915.

Identification Allen (1975), but confused with *A. garneysi* Fowler.

Distribution Known in Britain only from Blenheim (Oxfordshire) and Moccas Park (Hereford & Worcester).

Habitat and ecology Adults have been beaten from old oaks *Quercus* but may occur on flowers of such shrubs as hawthorn *Crataegus* with other members of the genus. In Denmark larvae have been found in half-dry, red-rotten, oak wood in January.

Status Originally recognised as British by Allen (1975) from a specimen collected by G. H. Ashe at Blenheim on 1 June 1953, almost certainly from Blenheim Park where Ashe is known to have collected. On 8 June 1980 J. A. Owen (1982b) collected a male and a female *A. schilskyana* at Moccas Park. They were mixed with other *Anaspis* species and he was uncertain as to their precise origin. On 7 June 1981 he returned to Moccas and beat a further male and female from the bough of an old oak tree in the park.

Threats The loss of ancient park woodland.

Conservation Ancient oaks at the above sites should be preserved, and their eventual replacement should be assured.

Author R. C. Welch.

Chrysanthia nigricornis

ENDANGERED

Order **Coleoptera** Family **Oedemeridae**

Chrysanthia nigricornis (Westhoff, 1881).

Identification Skidmore (1973); Harde (1984), fig. 219:2.

Distribution Only known from one site in Glen Tanar, Deeside (Grampian). The population is presumably very small since the adult is fairly large and brightly coloured.

Habitat and ecology Adults have been swept from heather *Calluna* in open canopy pine forest. Larvae have been found in the heart-wood of a sodden old pine branch (5cm thick) lying beneath tufts of moss and *Calluna*.

Status Possibly confined to a local Deeside population in the Caledonian Pine Forest.

Threats The removal of dead timber.

Conservation The site is within an NNR.

Author R. C. Welch.

Ischnomera cinerascens

VULNERABLE

Order **Coleoptera** Family **Oedemeridae**

Ischnomera cinerascens (Pandelle, 1867).

Identification Skidmore & Hunter (1981).

Distribution Duncombe Park near Helmsley, North Yorkshire (June 1979), and Moccas Park, Hereford & Worcester (May 1965) (Skidmore & Hunter, 1981).

Habitat and ecology Open deciduous parkland with old trees where there is believed to have been long continuity of this woodland type. It probably breeds in decaying wood. The adults have been collected by beating.

Status It apparently occurs in much smaller numbers than either *I. caerulea* (L.) or *I. sanguinicollis* (F.). There are six specimens from Duncombe Park, and one specimen from Moccas Park.

Threats The removal of old trees and dead wood.

Conservation Moccas Park is an NNR where the importance of the dead-wood fauna is fully recognised. Duncombe Park is an SSSI.

Author P. T. Harding.

Apalus muralis

ENDANGERED

Order **Coleoptera** Family **Meloidae**

Apalus muralis (Forster, 1771), formerly known as *Sitaris muralis*.

Identification Joy (1932), p.305; Buck (1954), p.26; Harde (1984), fig. 223:5.

Distribution There are 19th century records from Hammersmith and Chelsea (London), the New Forest (Hampshire), Devon, Warwickshire, and Weston-on-the-Green near Oxford. Early this century it was taken from Chobham (Surrey), Gloucester and the Oxford district, where it was taken up until the 1930s, occasionally common locally.

Habitat and ecology In and about the nests of mason bees and others, mostly in old walls, where the larva feeds on the bee's brood. In Britain it is probably chiefly associated with *Anthophora plumipes* (Pallas) and *A. retusa* (L.) but it has been recorded from a *Bombus terrestris* (L.) nest.

Status Although taken in plenty at times in the Iffley/Littlemore/Cowley/Wheatley/Wolvercote areas around Oxford in the earlier years of this century up to the mid-1940s, it has not been seen since. J. J. Walker noted that the intensely hot and dry summer of 1911 greatly reduced its numbers and it had scarcely been seen since. However A. A. Allen (in litt.) was told in 1944 that *A. muralis* still occurred most years at Iffley and Cowley. It may not be extinct, as the mason-bee which used to support it still abounds about Oxford (and in other parts of the country). The beetles spend most of their time inside the burrows and are seldom seen (Allen, in litt.).

Threats The old walls near Oxford where it used to be established have long been demolished.

Conservation If the species is rediscovered, any old walls or banks in which its host is burrowing will require protection.

Author R. C. Welch, using additional information from Fowler (1887-91, 5: 98-100) and Fowler & Donisthorpe (1913, p.300).

Acmaeops collaris

A longhorn beetle **ENDANGERED**

Order **Coleoptera** Family **Cerambycidae**

Acmaeops collaris (L., 1758).

Identification Duffy (1952), p.6; Harde (1984), fig. 251:6. Immature stages: Duffy (1953).

Distribution Formerly widespread but very local in the Midlands and south, especially Kent (see Kaufmann, 1948). Now probably confined to the Wyre Forest district of Hereford & Worcester/Salop. It is probably restricted to small isolated populations.

Habitat and ecology Broad-leaved woodland, especially on steep slopes on sandy soil. It breeds in dead exposed rotten roots, especially of oaks *Quercus*, where the larvae occur under loose dry bark. The larvae do not construct galleries and can move actively on the surface of branches. They pupate in the soil. Not associated with sweet chestnut *Castanea* hop poles as sometimes claimed.

Status Very infrequently seen by coleopterists recently (and the adult is conspicuous and occurs on flowers).

Threats The removal of very old oak hedges on field boundaries bordering woodland; the clearance of woodland; and reafforestation, especially where conifers are used.

Conservation The Wyre Forest is an NNR. The actual breeding sites need to be identified and given enhanced status.

Author F. A. Hunter.

Pyrrhidium sanguineum

A longhorn beetle **VULNERABLE**

Order **Coleoptera** Family **Cerambycidae**

Pyrrhidium sanguineum (L., 1758).

Identification Duffy (1952), p.11; Harde (1984), fig. 261:4.

Distribution Breeding has been confirmed at six sites: Moccas Park and Brampton Bryan Park (Hereford & Worcester), Llanfair Waterdine (Salop) and three sites in Powys. Adults have also been recorded in Gwent. There are probably small isolated populations. That at Moccas Park has been known since 1949, the others are more recently discovered.

Habitat and ecology Open canopy woodland with oaks *Quercus*. Breeds in recently dead, fallen branches of oaks.

Status Apparently confined to the southern Welsh borders, and confirmed as breeding in this area in 1949 and 1986. Earlier records were from ports and sawmills, suggesting introductions from abroad.

Threats The removal of fallen dead wood, the clearance of woodland, and reafforestation.

Conservation Moccas Park is an NNR, Brampton Bryan Park is an SSSI and one Powys site is a reserve of the Herefordshire and Radnorshire Nature Trust. Management proposals have been made for these sites. The other sites are not known to be protected but the site in Gwent has not been revealed by the author of the record. Other sites should be identified, notified and managed to retain dead wood.

Author P. T. Harding, using information from Allen & Lloyd (1951), Horton (1980), Cooter (1981a), Welch & Cooter (1981) and R. S. Key (pers. comm.).

Lamia textor

A longhorn beetle — **VULNERABLE**

Order **Coleoptera** — Family **Cerambycidae**

Lamia textor (L., 1758).

Identification Duffy (1952), p.13 and fig.27; Harde (1984), fig. 265:4.

Distribution Recorded from England, Scotland and Wales, but only found occasionally, usually as single adults in widely separated localities (see Kaufmann, 1948). It is probably restricted to very small isolated populations.

Habitat and ecology Associated with aspen *Populus tremula* and sallow *Salix* in damp areas, usually in or near continuous woodland. The larvae develop in living healthy roots or boles and often leave scant evidence above ground of their presence.

Status The species is cryptic in both coloration and habits and is crepuscular, so it could easily be overlooked.

Threats The clearance of sallows for drainage or reafforestation purposes.

Conservation There is an urgent need to identify actual breeding sites and to afford these protection.

Author F. A. Hunter.

Oberea oculata

A longhorn beetle — **ENDANGERED**

Order **Coleoptera** — Family **Cerambycidae**

Oberea oculata (L., 1758).

Identification Duffy (1952), p.15 and fig.30; Harde (1984), fig. 271:2. Larva: Duffy (1953), pp.295-297 and cf. figs 283-285.

Distribution Known only from Wicken Fen in Cambridgeshire this century. In the early 19th century it was "not uncommon" in the fens, and was also recorded from Cumbria (Barnwood, Carlisle). A specimen was taken near Romney in Kent in 1883. Kaufmann (1948) added west Norfolk, west Suffolk and Oxfordshire, and believed that an old "Scottish" record from Solway may have referred to a specimen once reported from Cumbria. It is occasionally seen "in good numbers" at Wicken Fen.

Habitat and ecology In fenland, usually associated with sallows and willows *Salix*. The species has also been recorded on buckthorn *Rhamnus*, alder *Alnus*, sea buckthorn *Hippophae rhamnoides* and umbellifers (Kaufmann, 1948). The eggs are laid on the smooth bark of twigs and slender stems of living healthy sallow bushes, and the larva bores a straight gallery in the

pith channel 30cm or more in length, or in sapwood in wider stems (Duffy, 1953). It sometimes causes damage in commercial osier-beds on the Continent. An accumulation of ejected frass clinging to the twigs is the only external indication that larvae are present. Adults are seen in July and August (June-September), usually sitting alert and motionless on the upper branches of sallows but sometimes flying very actively in sunny conditions.

Status The species had not been observed in Britain for some fifty years when one was taken on sea buckthorn on the coast of Romney Marsh in 1883 – a previously unrecorded plant association and locality. Since 1890 it has apparently been confined to Wicken Fen. Although a conspicuous and attractive insect it can be difficult to locate while sitting amongst the foliage, and it is said to be very difficult to catch. There were no recent records until August 1983, when one was photographed at Wicken Fen by C. R. Munford and later identified by H. Mendel (pers. comm.).

Threats Has been seriously affected in the past by the drainage of fens and the associated removal of sallows, though this is not a problem at Wicken Fen.

Conservation Wicken Fen is a property of the National Trust.

Author D. B. Shirt.

Donacia obscura

A leaf beetle **VULNERABLE**

Order **Coleoptera** Family **Chrysomelidae**

Donacia obscura Gyllenhal, 1813.

Identification Joy (1932), p.392.

Distribution Recorded from localised, widely separated sites in Britain. England: Windsor (Berkshire), Sutton Broad (Suffolk), Wareham (Dorset), and near Penrith (Cumbria); Scotland: Dumfries and Lochinvar (Dumfries & Galloway), the Glasgow district and Loch Tromlee, Argyll (Strathclyde); Aviemore, and single sites in Inverness and Ross & Cromarty (Highland); Wales: Bryn Pyde W. and Llyn Parc, Betws-y-coed (Gwynedd), and near Newbridge on Wye (Powys). The total population is probably small, since it never occurs in high numbers in the above localities.

Habitat and ecology A species occurring in lakes on uplands, in fens and woodland. The adults have been recorded from water-lilies (Nymphaeaceae) and sedges *Carex* during April-July. The larvae probably develop at the roots of the host plants during the autumn, winter and spring.

Status There are recent records for Scotland and Wales. The species occurred in high numbers at Llyn Parc, Betws-y-coed, on 27 April 1980 (P. Kirby), two were taken at Aberithon Turbary, Newbridge on Wye, in 1982 (R.S. Key), and it is regularly recorded near Loch Garten (J.A. Owen *et al*).

Threats The draining of lakes and broads for agricultural purposes.

Conservation Aberithon Turbary is a reserve of the Herefordshire and Radnorshire Nature Trust, and Loch Garten is a reserve of the RSPB.

Author M. L. Cox.

Zeugophora flavicollis

A leaf beetle **ENDANGERED**

Order **Coleoptera** Family **Chrysomelidae**

Zeugophora flavicollis (Marsham, 1802).

Identification Joy (1932), p.392.

Distribution Recorded from the following localities in England: Colchester, and Great Monk Wood and High Beech in Epping Forest (Essex); Matley Bog in the New Forest (Hampshire); Bexley (Kent); Laughton (East Sussex); near Kidderminster (Hereford & Worcester); Kendal (Cumbria); and Bricket Wood (Hertfordshire). In addition Fowler (1887-91, 4:280) recorded this species from Ashford (Kent), Seal Wood (Leicestershire), Kimpton (Hampshire) and the Manchester district. The total population is probably small, since it never occurred in high numbers in the above localities.

Habitat and ecology A woodland species in which the adults occur on the leaves of aspen *Populus tremula* during May, June, July and again in September and October. They probably overwinter, whilst the larvae mine the leaves of aspen during the summer.

Status Not recorded in the above localities since 1946.

Threats The clearing of natural woodland.

Author M. L. Cox, using additional information from Cox (1947), Buck (1955), and P.S. Hyman (pers. comm.).

Labidostomis tridentata

A leaf beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Labidostomis tridentata (L., 1758).

Identification Joy (1932), p.396.

Distribution Recorded from several widely separated sites in England as follows: Darenth Wood near Dartford, Oaken Wood near East Malling, and Ham Street Woods near Ashford (Kent); Abbot's Wood near Hailsham (East Sussex); Pamber Forest near Basingstoke (Hampshire); Wyre Forest (Hereford & Worcester); and Roseberry Topping near Great Ayton (Cleveland). In addition Fowler (1887-91, 4:285) recorded it from Coombe Wood (Surrey) and Bewdley (Hereford & Worcester). The total population is presumably small, since the adults are usually collected in low numbers. However, they occurred in profusion at Oaken Wood, East Malling, in May 1945.

Habitat and ecology The adults have been collected from young birches *Betula* about five years old in rough open ground in woodland during May, June and July. The larvae frequent the nests of ants and require at least a year to complete development.

Status The last records are for Ham Street Woods in July 1951 (van Emden, unpubl.), and for Abbot's Wood in the mid-1950s (J. Cribb collection: P. Hodge, pers. comm.)

Threats The clearing of woodland.

Author M. L. Cox, using additional information from Massee (1945).

Gynandr-ophthalma affinis

A leaf beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Gynandrophthalma affinis (Illiger, 1794).

Identification Joy (1932), p.395.

Distribution Recorded from Wychwood Forest near Witney, Oxfordshire, and from thickets by the River Windrush, 20km from Wychwood Forest. The total population is probably small since it is present in low numbers during the years of its occurrence in the above localities.

Habitat and ecology Adults have been taken from hazel *Corylus* in deciduous woodland during June and, rarely, in May. The larvae probably develop inside the nests of ants.

Status Not recorded since 1965, and confined to one or two populations in Oxfordshire.

Threats The clearing of woodland.

Conservation Wychwood is an NNR.

Author M. L. Cox, using information from Champion & Lloyd (1910) and Atty (1970).

Cryptocephalus biguttatus

A leaf beetle **VULNERABLE**

Order **Coleoptera** Family **Chrysomelidae**

Cryptocephalus biguttatus (Scopoli, 1763).

Identification Joy (1932), p.394.

Distribution Occurring in several extremely localised, widely separated populations in the following English counties: Devon (Totnes); Dorset (Parley Common near Bournemouth, and Studland); Berkshire (Wellington College at Crowthorne, and Wokingham); Buckinghamshire; Hampshire (Silchester Common, Eversley, Bournemouth and Lyndhurst); Surrey (Esher, Chobham Common, and Thursley or Hankley Common); Kent (Chatham and Walmer); West Sussex (Lavington Common near Petworth); and Staffordshire (Chartley Moss). Uncommon and very local, although not particularly rare on Parley or Lavington Commons.

Habitat and ecology Adults have been swept from cross-leaved heath *Erica tetralix*, its foodplant, and heather *Calluna vulgaris* on boggy heaths and moors during June and July. The larvae probably occur in ants' nests and probably require at least a year to achieve full development.

Status The last published record was from Chobham Common in 1969 but it apparently also occurred on Thursley or Hankley Common in 1974, and was taken by P. S. Hyman on Lavington Common in July 1983 (K. N. A. Alexander, pers. comm.).

Conservation Studland Heath and Thursley Common are NNRs, and Lavington Common is a property of the National Trust.

Author M. L. Cox, using information from Nicholson (1921), Donisthorpe (1922), Allen (1970d) and P. S. Hyman (pers. comm.).

Cryptocephalus coryli

A leaf beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Cryptocephalus coryli (L., 1758).

Identification Joy (1932), p.394.

Distribution There are old records from several localised, widely separated sites in England and one in Scotland. The English records are as follows: Cobham near Gravesend, Darenth near Dartford, and Westerham (Kent); Box Hill near Mickleham (Surrey); Stockgrove near Leighton Buzzard (Bedfordshire); and Sherwood Forest (Nottinghamshire). The Scottish record is from Inverness (Highland). The adults occurred in low numbers in the above localities so that the populations are presumably small.

Habitat and ecology The adults occur on young birch *Betula* and oak *Quercus* trees in natural woodland during May and June. However, they have also been collected by beating hawthorn *Crataegus* blossom. The larvae are probably myrmecophiles, living in association with ants and requiring at least a year to achieve complete development.

Status The last record was in 1958, when it was collected from Box Hill by R. J. Bartell.

Threats The clearing of woodland.

Author M. L. Cox.

Cryptocephalus decem-maculatus

A leaf beetle — **VULNERABLE**

Order **Coleoptera** — Family **Chrysomelidae**

Cryptocephalus decemmaculatus (L., 1758), also written as *C. 10-maculatus*.

Identification Joy (1932), p.395.

Distribution Occurring in several extremely localised, widely separated populations from the following localities: Comachgowran, Loch Rannoch (Tayside); Deeside, not far from Braemar (Grampian); Chartley Moss and Burnt Woods (Staffordshire); and Abbot's Wood near Hailsham (East Sussex). Probably small, isolated populations.

Habitat and ecology Adults have been swept from dwarf sallows *Salix* and birch *Betula* in deciduous woodland during June. The larvae occur in ants' nests and probably require at least a year to achieve full development.

Status Probably surviving as small isolated populations. Plentiful at Chartley Moss during 1978-79, and taken at Rannoch in July 1983 (J. A. Owen, pers. comm.).

Threats The destruction of natural woodland.

Author M. L. Cox, using information from Allen (1960b and 1970d).

Cryptocephalus exiguus

A leaf beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Cryptocephalus exiguus Schneider, 1792.

Identification Joy (1932), p.395.

Distribution Occurring in several extremely localised, widely separated populations from the following localities in eastern England: Oulton Broad, Barton Mills, and Lakenheath (Suffolk); Horning Fen and Woodbastwick (Norfolk); Eaton Common (?); and Freshney Bog near Grimsby (Humberside). Probably small, isolated populations.

Habitat and ecology Adults have been beaten from birch *Betula* and common sallow *Salix cinerea* in bogs and fens during June and July. The larvae probably occur in ants' nests and probably require at least a year to achieve full development.

Status Not recorded since 1908, until taken at Pashford Poors' Fen, Lakenheath, on 15 June 1980 (H. Mendel, pers. comm.).

Threats The drainage of fens and bogs.

Conservation Pashford Poors' Fen is an SSSI.

Author M. L. Cox, using information from Fowler & Donisthorpe (1913, p.287).

Cryptocephalus nitidulus

A leaf beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Cryptocephalus nitidulus F., 1787.

Identification Joy (1932), p.394.

Distribution There are old records for several localised, widely separated sites in the Midlands and southern England: Cobham near Gravesend, and Darenth Wood near Dartford (Kent); Box Hill near Mickleham (Surrey); Bournemouth (Dorset); the New Forest (Hampshire); Oxford and Wychwood Forest (Oxfordshire); Colesbourne (Gloucestershire); and Sherwood Forest (Nottinghamshire).

The adults occurred in low numbers in the above localities, so populations are presumably small.

Habitat and ecology The adults occur on young birches *Betula* in natural woodland during May, June and early July. The larvae are probably myrmecophiles, living in association with ants and requiring at least a year to complete development.

Status The last record is for Colesbourne in 1944.

Threats The clearing of woodland.

Author M. L. Cox.

Cryptocephalus primarius

A leaf beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Cryptocephalus primarius Harold, 1872.

Identification Joy (1932), p.394.

Distribution It has been recorded from widely separated localities in three English counties as follows: the western slope of Rodborough Hill (Gloucestershire); Cholsey (Oxfordshire); and the Gogmagog Hills (Cambridgeshire). Probably usually in small isolated populations; however, Fletcher (1944) recorded it as not uncommon in one localised area on Rodborough Hill.

Habitat and ecology Adults have been taken on warm, sheltered, dry hillsides with grasses, hawkweeds *Hieracium*, rockroses *Helianthemum*, etc. They have also been swept from common rockrose *H. nummularium* or collected at the roots during May and June. The larvae are probably associated with ants and require at least a year to complete development.

Status The last record was in 1944.

Author M.L. Cox.

Cryptocephalus querceti

A leaf beetle — **VULNERABLE**

Order **Coleoptera** — Family **Chrysomelidae**

Cryptocephalus querceti Suffrian, 1848.

Identification Joy (1932), p.395.

Distribution There are old records for three localised widely separated sites in England: Sherwood Forest (Nottinghamshire); Windsor Forest (Berkshire); and the New Forest

(Hampshire). The adults occur in low numbers in the above localities, so the populations are presumably small.

Habitat and ecology The adults occur on oaks *Quercus* and hawthorn *Crataegus* in natural woodland during June and July. The larvae are probably myrmecophiles, living in association with ants and requiring at least a year to achieve complete development.

Status The only post-war specimens taken were obtained by beating oak branches in the Cranbourne Park area at Windsor in June-July 1981 and June 1983 (J.A. Owen, pers. comm.).

Threats The clearing of woodland.

Author M.L. Cox, using additional information from Bedwell (1909).

Cryptocephalus sexpunctatus

A leaf beetle **VULNERABLE**

Order **Coleoptera** Family **Chrysomelidae**

Cryptocephalus sexpunctatus (L., 1758).

Identification Joy (1932), p.394.

Distribution It has been collected from widely separated localities in England and Scotland. The English localities are as follows: Salisbury (Wiltshire); Wool (Dorset); Lords Wood near Southampton (Hampshire); Hollington (East Sussex); Darenth Wood near Dartford, Cobham near Gravesend, Pilgrims Way near Ryarsh, East Malling, and Swanscombe (Kent); Grays chalk pit and Colchester (Essex); near Kidderminster (Hereford & Worcester). Those in Scotland are: Scarwater (?Dumfries & Galloway); Dalry Wood (?Strathclyde). The adults occur in low numbers in the above localities, so the populations are presumably small.

Habitat and ecology The adults occur on hazel *Corylus*, birch *Betula*, aspen *Populus tremula* and crack willow *Salix fragilis* in natural woodland during May, June and early July. In addition, they have also been collected from wood spurge *Euphorbia amygdaloides* blossoms. The larvae are probably myrmecophiles, living in association with ants and requiring at least a year to achieve complete development.

Status A single specimen was taken at Grays in 1978.

Threats The clearing of woodland.

Author M.L. Cox.

Bromius obscurus

A leaf beetle

ENDANGERED

Order **Coleoptera**

Family **Chrysomelidae**

Bromius obscurus (L., 1758), formerly known as *Adoxus obscurus*.

Identification

Portevin (1934); Freude, Harde & Lohse (1964-83), 10: Harde (1984), fig. 275:8.

Distribution

Occurring only as a single colony alongside the River Dane at Hugbridge near Bosley, Cheshire. The population is probably small but difficult to estimate, since willow-herbs are found in dense stands which are difficult to sweep and the beetles are easily alarmed and drop from the plants.

Habitat and ecology

Adults have been taken on various willow-herbs (*Epilobium* species) and especially the rose-bay willow-herb *Chamerion angustifolium*. The beetle seems to prefer light sandy soil alongside rivers. On the Continent it was recognised as a pest of the grape vine *Vitis vinifera* as early as the 15th century. According to Balachowsky (1963, pp. 593-597) this species is parthenogenetic and only the female is known. The adults start to emerge from the soil during May. Oviposition commences in early June and continues up to August, and the adults may survive for nearly three months. The bright yellow, 1.0 x 0.5mm ova are laid in batches of 20-40. They are laid either in the soil near the host plants or at the base of the stem, slightly above the root neck under the old sloughed-off epidermis. The larvae feed in groups on the roots, decorticating them and thus removing the epidermis and even sometimes the superficial wood. They eat either linear or irregular incisions, the latter resembling the damage caused by certain scarabaeid larvae. The larvae develop slowly during the autumn and winter and penetrate deep into the earth. Pupation occurs in an earthen cocoon during March or early April and the adults emerge 20-30 days later. The adults feed on the foliage of the host plants.

Status

This beetle was apparently very common in Britain during the mild phase about 11,000-12,000 years ago. Stephens (1827-35, 4:363) is perhaps the only British author to include this amongst the reputed British species. He referred to a specimen in the collection of the British Museum which was said to have been taken in Lincolnshire, but no subsequent record has since been reported, the species being expunged from the British list. It was 'rediscovered' by P. Kendall (1982), who found several specimens by the River Dane on 29 August 1979.

Author

M.L. Cox.

Chrysolina cerealis

"Rainbow Leaf Beetle" **ENDANGERED**

Order **Coleoptera** Family **Chrysomelidae**

Chrysolina cerealis (L., 1767).

Identification Joy (1932), p.398; Harde (1984), fig. 277:2.

Distribution Recorded from several sites on and at the foot of Mount Snowdon, Gwynedd, and in the surrounding district. The population is probably small, since it only occurs in low numbers.

Habitat and ecology Adults occur on and at the base of wild thyme *Thymus praecox* plants. The adults are present from June to October, and according to Balachowsky (1963, p.640) overwintering occurs in this stage in the mountains. Oviposition probably occurs in the spring and the larvae feed on the leaves of thyme during the summer. At lower altitudes the larvae may overwinter and resume their activity the following spring.

Status It has been recorded recently from Snowdon by J. Parry, who will be publishing his findings on the biology of this species. In a research project in 1980-81, P. King found it on Snowdon and in Cwm Idwal but not at other sites (A. Buse, pers. comm.).

Threats The destruction of stands of the host plant by burning, etc.

Conservation This species is listed on Schedule 5 of the Wildlife and Countryside Act 1981 and should not be collected. Part of the area is owned by the National Trust.

Author M.L. Cox.

Chrysolina latecincta

A leaf beetle **VULNERABLE**

Order **Coleoptera** Family **Chrysomelidae**

Chrysolina latecincta (Demaison, 1896), formerly confused with the commoner *C. sanguinolenta* (L.) which only occurs in England.

Identification Joy (1932), p. 399.

Distribution There are old records for the Scottish mainland: the Clyde area near Glasgow, and Glen Noe (Strathclyde), and Sutherland (Highland). It has also been recorded from the Shetland Islands, and several sites on the Orkneys. It usually occurs in low numbers.

Habitat and ecology In dry grassy places and sandy hills in maritime situations. At Yesnaby (Orkney) it occurred very locally along about half a mile of Atlantic cliff top. Adults occurred in sunshine among stunted grasses, none more than 50m from the cliff edge (I. Lorimer, pers. comm.). The adults occur mainly on toadflax *Linaria* during January, April, May and September, and probably overwinter. The larvae are external feeders on the same host and probably occur during the summer months. Drummond (1956) collected the larvae on the normal and hairy forms of sea plantain *Plantago maritima* growing in crevices at the top of sea cliffs on Black Craig to the west of Stromness (Orkney) on 22 July 1956. In captivity they also fed on the plantains *P. lanceolata*, *P. major* and *P. coronopus* and on yellow toadflax *Linaria vulgaris*.

Status The species was found to be very common at Yesnaby (Orkney) in April and May 1984 (I. Lorimer, pers. comm.).

Author M. L. Cox.

Chrysomela tremula

A leaf beetle **ENDANGERED**

Order **Coleoptera** Family **Chrysomelidae**

Chrysomela tremula F., 1787.

Identification Joy (1932), p.398.

Distribution There are numerous old records from the Midlands and southern England: Ham Street Woods near Ashford, and Darenth Wood and Wilmington near Dartford (Kent); Barnthorpe Woods near Effingham, Box Hill, Esher Common, and Godstone (Surrey); Warley Common near Brentwood, Ongar Park Wood, Waltham Abbey, and High Beech in Epping Forest (Essex); Knebworth Great Woods, Broxbourne Woods, and Haileybury near Hertford (Hertfordshire); Windsor Forest (Berkshire); Brasenose Wood at Shotover (Oxfordshire); Gamlingay, Cambridge, and Monks Wood (Cambridgeshire); Flitwick Moor and Kings Wood (Bedfordshire); Hartlebury and Rous Lench (Hereford & Worcester); and Knowle (West Midlands). The adults occurred in reasonable numbers in the above localities.

Habitat and ecology The adults, larvae and pupae occur on aspen *Populus tremula*, poplars (*Populus* species) and sallows (*Salix* species), on commons and in woodland. The biology has been studied by Bromley (1947). The dirty white ova are laid in clusters of about 25 on the underside of leaves of the host plants in May and June. The larvae are rather inactive during the first two instars but in the last instar roam from the foodplant. The full-grown larvae leave the foodplant and ascend the stems of low herbage to a height of about 30cm,

where they pupate. The adults emerge from the pupae in about 6-7 days. They occur from May to the end of September, when they enter over-wintering sites. The larvae probably occur in the field during June and July and there is one generation annually.

Status The last record is for Ongar Park Wood in 1951.

Threats The clearing of woodland

Author M.L. Cox.

Galeruca interrupta

A leaf beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Galeruca interrupta Illiger, 1802, formerly known as *G. oelandica* Boheman.

Identification Joy (1932), p.403.

Distribution Very little is known concerning the distribution. One was taken at Sherborne, Dorset, whilst Stephen (in Fowler) records it from the borders of Whittlesea Mere, Cambridgeshire, during June and July. In addition Blatch recorded it in numbers in Wicken Fen, Cambridgeshire, in August 1878. It probably occurred in reasonable numbers.

Habitat and ecology According to Fowler (1887-91, 4:331) it occurs on sallows *Salix* in marshy places. However, abroad the host plant is a crucifer or the composite field southernwood *Artemisia campestris*. It has also been recorded from creeping willow *Salix repens*. The adults oviposit in the spring and the larvae occur in early summer.

Status There have been no records since July 1919, when one was taken on the wing at Sherborne by E.J. Pearce, and it is therefore possibly extinct.

Author M.L. Cox.

Longitarsus nigerrimus

A flea beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Longitarsus nigerrimus (Gyllenhal, 1827).

Identification Kevan (1967).

Distribution Occurring in southern and eastern England as far north as Cleveland: Greathide (?); Studland and Hurn (Dorset); Ringwood, Setley Plain near Ringwood, and the New Forest (Hampshire); Grantham (Lincolnshire); Grimsby and near Cleethorpes (Humberside); and Middlesbrough (Cleveland).

(The last four records probably refer to *L. plantagomaritimus* Dollman.) Reasonable numbers of this species may occur, since a series of eight were taken at Hurn on 21 June 1929 (coll. G.W. Nicholson).

Habitat and ecology Adults have been swept from greater bladderwort *Utricularia vulgaris*, rushes *Juncus* and *Sphagnum* moss in ponds and peaty bogs during February, May, June, September and October. The adults apparently overwinter and the new generation emerges in late September and October, so that the immature stages probably develop during the summer at the roots of their host plant.

Status Last recorded in 1933. However, A.A. Allen thinks that it must still occur in the New Forest area.

Threats The drainage of ponds and bogs.

Author M.L. Cox, using information from Tomlin & Joy (1908), Tomlin & Sharp (1912) and Harwood (1928).

Longitarsus rutilus

A flea beetle **VULNERABLE**

Order **Coleoptera** Family **Chrysomelidae**

Longitarsus rutilus (Illiger, 1807).

Identification Kevan (1967).

Distribution Recorded from the following localites in England: the Lizard, Wacca Bridge near Antony, near Saltash, Porthcothan, and Trevone (Cornwall); Torquay and Seaton (Devon); Swanage, and Tadden Withy Beds near Wimborne Minster (Dorset); Southsea and Hayling Island (Hampshire); Halstow (Kent); Eaton in south-west Norwich (Norfolk); and Tresco (Scilly Isles). Fowler (1887-91, 4:352) recorded this species from Weybridge (Surrey) and Hastings (East Sussex).

Habitat and ecology Adults have been swept from figworts *Scrophularia auriculata* and *S. scorodonia* by streams during March to June, August and December. They probably overwinter and the developmental stages probably occur at the roots of the host plants.

Status This species occurs in reasonable numbers in some of the above localities. In 1981 it was obtained on the Lizard, a new locality. Several specimens were collected at Tadden Withy Beds, Dorset, on 14 June 1983 by P. S. Hyman.

Threats The filling in, diversion or drying-up of streams as well as water pollution.

Conservation There is an NNR on the Lizard. Tadden Withy Beds is a property of the National Trust.

Author M.L. Cox, using information from Allen (1979) and P.S. Hyman (pers. comm.).

Dibolia cynoglossi

A flea beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Dibolia cynoglossi (Koch, 1803).

Identification Joy (1932), p.421.

Distribution Recorded from several widely distributed localities in England: Burwell Wood (Lincolnshire); Chatteris (Cambridgeshire); Pevensey Bay and Rye Harbour (East Sussex); and Fordlands and Dawlish Warren (Devon). This species occurred in low numbers in the above localities.

Habitat and ecology Adults occur on the hemp-nettle *Galeopsis* and hound's-tongue *Cynoglossum officinale* in woodland, sometimes near the coast, from May to September. They probably overwinter and the larvae probably mine the leaves of the above host plants during the summer.

Status The only post-war record is a specimen taken by K. Side in Rye Harbour in July 1973 (P. Hodge, pers. comm.).

Author M.L. Cox, using information from Fryer & Fryer (1923b) and Carey Riggall (1944).

Psylliodes hyoscyami

A flea beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Psylliodes hyoscyami (L., 1758).

Identification Joy (1932), p.411.

Distribution The foodplant, henbane, is very local, and sporadic, though widely scattered, and thus the beetle is seldom found but doubtless occurs far more widely than the records would suggest. *P. hyoscyami* has been recorded from the following localities: Cleveland (Hartlepool); North Yorkshire (York); the Manchester district; Leicestershire (Gumley); Berkshire (Aldworth and Streatley); Cambridgeshire (St. Neots); Oxfordshire (Oxford, Wychwood Forest and Wytham Hill); London (Shirley near Croydon, and Merton); Hertfordshire (Hitchin); and in Scotland from Dalmeny near Edinburgh (Lothian). It may occur in quite large numbers where the host plant is grown commercially.

Habitat and ecology Adults have been swept from April to August from henbane *Hyoscyamus niger*, which grows in sandy waste places, especially near the sea. The following notes on the biology are taken from a detailed study by Newton (1934). The

adults hibernate in long grass and appear in the field at the end of April. Oviposition commences in early May and continues during June, and incubation requires about two weeks. The entire larval life is passed within the plant, the leaf stalks of which are mined almost to the leaf tip. Mines may also be found in the leaf blade, the pith of the main stem and the tap roots. The first pupae occur in late June and the new generation adults at the end of July. There appears to be only one generation a year.

Status Not recorded since 1930 but probably surviving as small isolated populations.

Author M.L. Cox, using additional information from Fowler & Donisthorpe (1913, p.294).

Psylliodes luridipennis

A flea beetle — **ENDANGERED**

Order **Coleoptera** — Family **Chrysomelidae**

Psylliodes luridipennis Kutschera, 1864, formerly regarded as a variety of *P. chrysocephala* (L.). Also listed in Category 5 (Endemic).

Identification Joy (1932), p.412; Shute (1975).

Distribution Confined to Lundy Island (off north Devon), where it has been recorded from several sites including Quarry Beach. The population is presumably small since the adults never occur in high numbers on Lundy.

Habitat and ecology Adults have been swept from Lundy cabbage *Rhynchosinapis wrightii* on sand dunes from April to August. The larvae probably occur during the winter at the roots or mining the roots of the host plant.

Status The beetle is endemic to Lundy Island and probably survives in low numbers in several localities on Lundy. It was last recorded in 1979.

Author M.L. Cox.

Otiorhynchus auropunctatus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Otiorhynchus auropunctatus Gyllenhal, 1834.

Identification Fowler & Donisthorpe (1913), pp.184-185.

Distribution Known only from one site, Stac Polly, Ross & Cromarty (Highland). (It is often common on the east coast of Ireland.)

Habitat and ecology The adults occur on a variety of shrubs and herbs on roadsides and in waste places in Ireland. The larvae are root-feeders.

Status Probably an outlier of a 'Lusitanian' distribution, but it should be looked for elsewhere on the British west coast.

Conservation The site is part of an NNR. There is little practical conservation to be undertaken. Monitoring is desirable.

Author M. G. Morris.

Otiorhynchus ligustici

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Otiorhynchus ligustici (L., 1758).

Identification Fowler (1887-91), 5:172-179; Joy (1932), p.181; Harde (1984), fig. 287:9.

Distribution Recorded from several very well scattered sites in England and Scotland, but from only Shropshire and the Isle of Wight in recent years. The Isle of Wight colony is persistent.

Habitat and ecology Rough grasslands, including maritime cliff slopes. It feeds on a variety of plants, but shows an association with kidney-vetch *Anthyllis vulneraria* at the main British site. The larvae are root-feeders. The species is parthenogenetic, so small populations are probably quite usual and viable.

Status A rare native species, existing as small populations. Recorded near Ventnor, Isle of Wight, in April 1980 and July 1981 (P. Hodge, pers. comm.).

Threats Development for holiday facilities, and the erosion of some sites.

Conservation The Isle of Wight site is well known, but its status must be checked.

Author M. G. Morris.

Cathormiocerus attaphilus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Cathormiocerus attaphilus Brisout, 1880, formerly known as *Trachyphloeus attaphilus*.

Identification Keys (1921); Joy (1932), p.180.

Distribution Known only from the Lizard (Cornwall) and Wembury near Plymouth (Devon).

Habitat and ecology Coastal cliffs. The larvae are root-feeders. The adults are probably not closely associated with a particular plant, and are ground-living. (They have been taken in moss-traps.)

Status A rare native species in a genus markedly maritime and extremely localised, even within its restricted range in western Europe (France, Spain, etc.).

Threats Degradation of the sites through uncontrolled public pressure: wear on the coastal grassland in the Lizard area is very severe. No information is available about the Wembury site.

Conservation The Lizard is well-known as a very important locality for invertebrate conservation and has an NNR. NCC regional staff are aware of this. Some rehabilitation of the worst-eroded sites has taken place. Recent work at the Lizard has failed to locate *C. attaphilus*, and confirmation that the weevil is still present in the area is necessary. The British sites are important internationally.

Author M. G. Morris.

Cathormiocerus britannicus

A weevil **ENDANGERED**

Order **Coleoptera** Family **Curculionidae**

Cathormiocerus britannicus Blair, 1934.

Identification Blair (1934).

Distribution Known only from sites on the Lizard in south Cornwall, from Kynance to Rinsey, but probably not looked for in many potential areas further north. There is one old record from Tintagel (north Cornwall).

Habitat and ecology Coastal cliff grassland. The larvae are root-feeders and probably feed on a variety of plants. The adults, which are ground-living, seem to be particularly associated with ribwort *Plantago lanceolata*.

Status A rare species in a markedly 'Lusitanian' genus, once thought to be endemic but recently found in northern France. It is a species with a very narrow range for which British conservationists have a particular responsibility.

Threats Erosion and degradation of the habitat through severe over-use by the public.

Conservation The well-known Kynance (Lizard) site is an important SSSI and conservation area (National Trust). NCC regional staff are aware of the importance of the area to rare species generally. The Porthleven site is also National Trust land,

but the Rinsey locality appears to lie between Trust properties, though this should be checked. Practical conservation is probably unnecessary; the avoidance of heavy wear to the cliffs is the main consideration.

Author M. G. Morris.

Cathormiocerus socius

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Cathormiocerus socius Boheman, 1843.

Identification Fowler (1887-91), 5:185-6; Joy (1932), p.181.

Distribution Known only from the south coast of the Isle of Wight, from Freshwater almost to Bembridge. Very local but not extremely rare.

Habitat and ecology Occurs in maritime grasslands and sparsely-vegetated clifftops, etc. Its biology is not well known. The larvae are root-feeders, perhaps associated with plantains (*Plantago* species).

Status A very local native species, extremely limited in its total range. Very rare in France and known only from Spain (Sierra Nevada) otherwise.

Threats Holiday development and the erosion of habitat by tourists. Possibly some sites are inaccessible.

Conservation Both NCC and the National Trust are aware of the importance of some sites of occurrence.

Author M. G. Morris.

Sitona gemellatus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Sitona gemellatus Gyllenhal, 1834.

Identification Fryer & Fryer (1923a); Donisthorpe & Walker (1931), p.77; Joy (1932), p. 177; Kevan (1959).

Distribution Originally recorded from the Sidmouth-Branscombe area of south Devon; it is not known whether a colony is extant there. It was discovered at Eype's Mouth near Bridport (Dorset) in 1982 and there is an apparently thriving colony there.

Habitat and ecology Coastal undercliffs and disturbed areas. In Britain the weevil is associated mainly with restharrow *Ononis repens* and black medick *Medicago lupulina*, but on the Continent large birdsfoot-trefoil *Lotus uliginosus* and meadow vetchling *Lathyrus pratensis* are quoted as foodplants. The larvae are root-feeders.

Status A rare native species, the range of which needs to be ascertained with much greater accuracy. It possibly occurs at other localities along the south coast. Not widespread on the Continent and absent from mid-Europe.

Threats Not well-documented. Cliff falls are likely to affect populations, at least temporarily, but public pressure leading to habitat degradation is probably slight.

Conservation The Eype site is on National Trust land. No practical conservation is required but the species should be surveyed and monitored.

Author M.G. Morris.

Lixus algirus — A weevil — ENDANGERED

Order **Coleoptera** — Family **Curculionidae**

Lixus algirus (L., 1758).

Identification Fowler (1887-91), 5:241-244; Joy (1932), p.218.

Distribution In Britain, apart from the early 19th century records, it is restricted to a few coastal sites in East and West Sussex, but it has not been seen recently.

Habitat and ecology In Britain the best-known localities are marshy, wet grasslands, but on the Continent it is not restricted to such places. The larvae feed in the stems of thistles (*Cirsium* and *Carduus* species predominantly), and also in the stems of other plants such as common mallow *Malva sylvestris*. The adults congregate on the foodplants, which may afford them some protection from predators.

Status A common and abundant species on the Continent, probably on the edge of its range in Britain and unlikely to survive either on agricultural land or in conventional nature reserves.

Threats Mainly agricultural. Thistles and weeds (the field thistle, *Cirsium arvense*, is a statutory 'noxious weed') are not often allowed to persist. In any case, the ploughing and drainage of pasture has caused much destruction of habitat.

Author M. G. Morris.

Lixus paraplecticus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Lixus paraplecticus (L., 1758).

Identification Fowler (1887-91), 5:241-243; Joy (1932), p.218.

Distribution Formerly widely distributed in southern England, especially in the East Anglian fens. Recorded from many sites in the 19th and early 20th centuries. The most recent records are from Somerset (c. 1950) and west Kent (1940s), but no localities in either county have been confirmed in the last ten years. There are no recent records from East Anglia.

Habitat and ecology Watersides, marshes and fens. The larvae feed in the stems of semi-aquatic Umbelliferae, particularly greater water-parsnip *Sium latifolium* and fine-leaved water dropwort *Oenanthe aquatica* (and hemlock water dropwort, *O. crocata*?). The adults occur on the foodplants and in litter, etc.

Status A native species highly susceptible to land-use changes and which is unlikely to survive unless a colony can be found and protected. The species is likely to be dependent on a large area of foodplant, and the carrying capacity of existing sites is probably low.

Threats The draining of fens and marshes, commercial development (at the Kent site), the canalisation of rivers, and land-use changes generally. The threats are generally very severe, as demonstrated by the history of the species in the 19th and 20th centuries.

Conservation The first essential is rediscovery of a colony of the weevil, with immediate protection and management.

Author M. G. Morris.

Lixus vilis

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Lixus vilis (Rossi, 1790), formerly known as *L. bicolor* Olivier.

Identification Fowler (1887-91), 5:241-244; Joy (1932), p.218.

Distribution At the Deal and Sandwich sand dunes (Kent) until the end of the 19th century, and just possibly still there, though more probably extinct. There are other records either of long-extinct colonies or casuals only.

Habitat and ecology Sandy places, especially near the coast; not on acid sands. The larvae feed in the stems of common storksbill *Erodium cicutarium*. The adults are usually found on or near the foodplants.

Status A rare native species occurring in a biotope which is particularly threatened, both here and abroad.

Threats Use of sand dunes by the public. It is likely that the large plants (?semi-perennial) needed to support the weevil get little chance to develop under modern conditions of land-use.

Conservation The last recorded site is a well-known conservation area, possibly included in a reserve of the Kent Trust for Nature Conservation. However, conservation is impracticable until it is established that the species is not extinct.

Author M. G. Morris.

Hypera pastinacae

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Hypera pastinacae (Rossi, 1790), formerly known as *Phytonomus pastinacae* or *H. tigrina* Boheman.

Identification Fowler (1887-91), 5:229-234; Joy (1932), pp.228-229.

Distribution One known site in east Kent. (A Dorset record is almost certainly erroneous.)

Habitat and ecology On cliff grassland in Britain. The larvae feed externally on the foliage (and flowers?) of wild carrot *Daucus carota*; the adults are associated with the same plant.

Status A very localised native species.

Threats Development and public pressure. Possibly cliff falls.

Conservation At least part of the area of occurrence is on National Trust land. A modern survey of the status of the weevil is required.

Author M. G. Morris.

Limobius mixtus

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Limobius mixtus (Boheman, 1834).

Identification Fowler (1887-91), 5:228; Joy (1932), p.228.

Distribution South Devon (very old records); Chesil Beach, Dorset (no recent records); the Sandwich/Deal sandhills, Kent; and Rye Harbour, East Sussex.

Habitat and ecology The host-plant is common storksbill *Erodium cicutarium*, confined to sandy areas (but not on very acid sands). The larvae feed externally. The known British sites are all maritime.

Status A very local native species, with no recent records except from the Kent and East Sussex localities.

Threats Development and public pressure. Rye Harbour has been threatened by the establishment of a leisure centre.

Conservation The Kent Trust for Nature Conservation has a nature reserve in which the species may occur. Rye Harbour is an important SSSI. A survey of the weevil's status would be desirable.

Author M. G. Morris.

Liparus germanus

A weevil **VULNERABLE**

Order **Coleoptera** Family **Curculionidae**

Liparus germanus (L., 1758).

Identification Fowler (1887-91), 5:248-250; Joy (1932), p.187.

Distribution Kent (?only). Widely distributed throughout Kent. There are old (early 19th century) records from near Hastings, East Sussex, but there are no recent Sussex occurrences.

Habitat and ecology Roadsides, waste places, the edges of agricultural land, etc., in tall herb communities. The larvae feed in the rootstocks of hogweed *Heracleum sphondylium*, and the adults are almost invariably associated with the same plant.

Status A native species on the edge of its range, probably best described as local and restricted, rather than rare. The species is the largest British weevil.

Threats All kinds of development and land-use changes, particularly on roadside verges and agricultural land. It is one of the species to which collecting might be a threat. It is also vulnerable to senseless killing, particularly on roadsides, by the ignorant (cf. the stag beetle, *Lucanus cervus* (L.)).

Conservation Not fully known. Several colonies are in or near nature reserves. A survey of sites for the weevil and those with formal protection needs to be co-ordinated.

Author M. G. Morris.

Anchonidium unguiculare

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Anchonidium unguiculare (Aube, 1850).

Identification Donisthorpe & Walker (1931), pp.78-79; Joy (1932), p.208.

Distribution The first British specimen was found in flood refuse near Plymouth (Keys, 1916), but since 1932 the weevil has been taken freely at Gweek Wood, west Cornwall. It has recently been taken in neighbouring woods.

Habitat and ecology Occurs in leaf litter and mosses in oak *Quercus* woodland on acidic soil. Its biology is unknown.

Status A very local native species, rare over much of its range in Europe. The population size seems to vary but it is often fairly numerous in the best-known site.

Threats Development and other land-use changes, particularly felling of the woodland habitat.

Conservation NCC (South-West Region) has been informed of the Gweek Wood site. Recent searches (April 1984) for the weevil in woodlands along the Helford River have been successful. One of the new sites is on National Trust land and the Trust's agent has been informed; the other new site is an SSSI.

Author M. G. Morris.

Dryophthorus corticalis

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Dryophthorus corticalis (Paykull, 1792).

Identification Donisthorpe (1925); Donisthorpe & Walker (1931), pp.84-85, pl. H:6.

Distribution Known only from Windsor Forest, Berkshire, where there have been good recent records. The weevil is fairly widespread as a Flandrian fossil in Britain.

Habitat and ecology In red-rotten wood of deciduous trees, notably oak *Quercus*, often in association with the ant *Lasius brunneus* (Latreille). The larvae feed on wood. The species is an 'Urwaldtier', associated only with old relict forest (see below).

Status An important species of relict forest, almost certainly very much reduced in range by the inexorable destruction of hardwood trees and the clearance of woodland areas. There are several recent records from Windsor Forest (J. A. Owen *et al*, pers. comm.).

Threats Over-zealous forestry practice, particularly clearing of the dead wood in which the weevil lives and breeds.

Conservation NCC regional staff have been alerted and fully briefed, and the Crown Estate staff have been informed. Further consultation between the NCC and the Crown Estate is necessary.

Author M. G. Morris.

Bagous argillaceus

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *argillaceus* Gyllenhal, 1836.

Identification Fowler (1887-91), 5:285-289; Joy (1932), pp.210-211; Dieckmann (1964).

Distribution Recorded from only five vice-counties. The main area of occurrence is the Thames marshes (Kent and Essex).

Habitat and ecology In brackish ditches and ponds; maritime in Britain (but inland on haline soils on the Continent). The foodplants and larval biology are unknown.

Status An uncommon and very local native species, vulnerable to habitat loss.

Threats Drainage, reclamation, conversion of brackish dykes to freshwater, agricultural intensification and industrial development. The habitat is extremely vulnerable.

Conservation Some sites have been notified as SSSIs, but a good modern survey of the species is a priority. Recorded from Scolt Head NNR, Norfolk, though this requires confirmation.

Author M. G. Morris.

Bagous binodulus

A weevil — **ENDANGERED +**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *binodulus* (Herbst, 1795).

Identification Fowler (1887-91), 5:285-289; Newbery (1902); Joy (1932), pp.210-211; Dieckmann (1964).

Distribution Reliably known probably only from the Norfolk Broads, and not recently. There are older records from the London area and ?Sussex. Possibly extinct. The foodplant is restricted in range, but the Norfolk Broads population of the plant has recently increased in size through management of dykes.

Habitat and ecology Feeds on water soldier *Stratiotes aloides*, the larvae occurring on the fleshy leaves. In broads, ditches, ponds, etc.

Status A rare native species, possibly extinct. Newbery (1902) knew of only four British specimens.

Threats The foodplant has been declining, mainly owing to pollution and possibly drainage, but has recently increased.

Author M. G. Morris.

Bagous brevis — A weevil — ENDANGERED

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *brevis* Gyllenhal, 1836.

Identification Newbery (1902); Fowler & Donisthorpe (1913), pp.186-189; Joy (1932), pp.210-212; Dieckmann (1964).

Distribution Known from the Horsell area of Surrey (?no recent records) and the New Forest, Hampshire (two recent records). More doubtfully recorded from Sheerness, Kent (Fowler & Donisthorpe, *loc. cit.*), but no colony is known and it has not been recorded from Kent for the last fifty years. It is seldom taken in numbers, so populations may be small.

Habitat and ecology Virtually unknown. Occurs in and on the banks of ponds. Associated with lesser spearwort *Ranunculus flammula* by Lohse *in* Freude, Harde & Lohse (1964-83), 11.

Status A very rare species both here and in northern Europe generally, including Ireland. Recorded from two sites in the New Forest in May 1978 and June 1983 by P. Hodge (pers. comm.).

Threats Drainage of ponds and other land-use changes; and possibly natural succession.

Conservation The Forestry Commission should be informed of the New Forest sites, and monitoring, and if necessary management, of the sites should be initiated.

Author M. G. Morris.

Bagous cylindrus

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Cyprus*) *cylindrus* (Paykull, 1800).

Identification — Fowler (1887-91), 5:285-288; Joy (1932), pp.210; Dieckmann (1964).

Distribution — Recorded from seven vice-counties, all in south-east England. The main area of occurrence is the Thames marshes (Kent and Essex). Numbers are often large where the weevil occurs.

Habitat and ecology — Dykes, ditches and ponds. The host plants are grasses, including *Glyceria plicata* and orange foxtail *Alopecurus aequalis*. The larval feeding habits are unknown.

Status — An uncommon native species: not very rare, but under considerable pressure because of its threatened habitat. Recorded near Tenterden, Kent, in May 1981 and on the Lewes Levels, East Sussex, in 1983 (P. Hodge, pers. comm.).

Threats — Drainage, agricultural intensification, and all kinds of development. The habitat is extremely vulnerable.

Conservation — Some sites have been notified as SSSIs. The weevil probably occurs in at least one nature reserve.

Author — M. G. Morris.

Bagous czwalinai

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *czwalinai* Seidlitz, 1891, formerly known as *B. tempestivus* var. *heasleri* Newbery.

Identification — Newbery (1902); Fowler & Donisthorpe (1913), pp.186-189; Joy (1932), pp.210-211; Dieckmann (1964).

Distribution — Known only from the New Forest (Hampshire), in the Lyndhurst area. There is one precisely known and one indefinite locality. The weevil is seldom taken and its populations may be small.

Habitat and ecology — In small *Sphagnum* bogs. Its biology is unknown, either here or abroad.

Status — A very rare native species. Also very uncommon throughout its known range (north and eastern Europe, not widely distributed).

Threats — Drainage and inadvertent land-use changes; drying out, and succession.

Conservation The Forestry Commission has been informed of the importance of the better-known site and suitable management procedures have been agreed. Recent monitoring of the site has revealed some deterioration due to trees overgrowing the bog and to drying out. Monitoring should continue.

Author M. G. Morris.

Bagous diglyptus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *diglyptus* Boheman, 1845.

Identification Fowler (1887-91), 5:285-291; Dieckmann (1964).

Distribution Recorded from East Anglia (the Norfolk Broads, and near Ipswich, Suffolk), and Burton-upon-Trent, Staffordshire. All records are old; there are no recent occurrences known.

Habitat and ecology Apparently mainly on dry soils (in contrast to most species of *Bagous*), but the British localities give contradictory evidence on this point. The hostplants and larval biology are unknown.

Status A rare, vulnerable, native species whose biology is very poorly known.

Threats Land-use changes, but as the habitat is poorly known it is difficult to be precise.

Conservation The location of a colony and study of the weevil's biology are the first requirements.

Author M. G. Morris.

Bagous frit

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *frit* (Herbst, 1795).

Identification Blair (1935); Dieckmann (1964).

Distribution Known from the New Forest, Hampshire (only two small sites known), Studland, Dorset (the locality is said to have been destroyed), and Sutton Broad, Norfolk (no recent records). The only known existing colonies are those in the New Forest.

Habitat and ecology Occurs in small *Sphagnum* bogs. The biology is unknown.

Status A very rare native species which is also very uncommon throughout its European range. The weevil was not uncommon within one of its very small areas of occurrence

(1960-71) but could not be found in 1983, when it was discovered at another site.

Threats Drainage, clearance, inadvertent interference during forestry operations, and natural succession.

Conservation There has been full consultation with the Forestry Commission, and management procedures have been agreed. Monitoring has shown deterioration of the main site in the period 1971-83.

Author M. G. Morris.

Bagous longitarsis

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *longitarsis* Thomson, 1868, formerly known as *B. tomlini* Sharp.

Identification Sharp (1917); Joy (1932), pp.210-212; Dieckmann (1964).

Distribution Known only from the New Forest, Hampshire, and Romney Marshes, Kent. There is a recent record from the latter area.

Habitat and ecology In ponds and possibly ditches. Its biology is unknown, though it is perhaps associated with water-milfoils (*Myriophyllum* species).

Status A rare species, very rare in Britain. Occasionally taken in numbers on the Continent of Europe. It was taken near Snargate, Romney, in September 1982 (P. Hodge, pers. comm.).

Threats Drainage, and associated damage; land-use changes (especially in the Romney Marshes).

Conservation The general importance of the localities is known but there have been no specific suggestions for practical conservation.

Author M. G. Morris.

Bagous nodulosus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Bagous (*Bagous*) *nodulosus* Gyllenhal, 1836.

Identification Fowler (1887-91), 5:285-289; Joy (1932), pp.210-211; Dieckmann (1964).

Distribution Recorded from eight vice-counties, but certainly extinct in one (Huntingdon). In the Somerset Levels, and from Sussex to Suffolk. Mostly in maritime counties, but the weevil itself is not coastal.

Habitat and ecology In and near ditches, dykes, ponds, etc. The foodplant is flowering rush *Butomus umbellatus*. The larvae feed in the stems.

Status A very local native species. The species was common in a 50m length of rhyne in Somerset in April and June 1983, in a large stand of flowering rush (A. P. Foster, pers. comm.).

Threats Drainage, management of watercourses, agricultural intensification, eutrophication, and land-use changes of all kinds. The habitat is particularly vulnerable.

Conservation No conservation work has been done and the presence or absence of the weevil in protected sites has not been determined. This species could be conserved in conjunction with the foodplant (a widely-distributed but declining species). The Somerset site is on a proposed SSSI. A survey of the weevil's present status is desirable.

Author M. G. Morris.

Bagous puncticollis

A weevil **ENDANGERED**

Order **Coleoptera** Family **Curculionidae**

Bagous (*Abagous*) *puncticollis* Boheman, 1845.

Identification Fowler & Donisthorpe (1913), pp.186-189 (as *B. glabrirostris* Herbst var. *major*); Dieckmann (1964).

Distribution Recorded from a few sites in Kent, Sussex and Surrey, but the exact distribution is not known because of confusion with other species. There is a recent record from near Pevensey, East Sussex.

Habitat and ecology Occurs in ponds, etc., and watersides. The biology is scarcely known; it perhaps feeds on a variety of water plants.

Status A rare native species, Endangered by virtue of its habitat.

Threats Drainage and land-use changes generally. Perhaps natural succession.

Conservation No conservation of this species is known to have been attempted, but the general threats to its habitat are well-known. Existing (and new) sites should be assessed against formal protection in the form of SSSI or nature reserve status.

Author M. G. Morris.

Dorytomus affinis

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Dorytomus affinis (Paykull, 1800).

Identification Fowler (1887-91), 5:272-278.

Distribution There are old records from a number of localities, many of them in error through confusion with other species. There are reliable recent records from two small areas only: Ham Street, Kent, and Monks Wood, Cambridgeshire.

Habitat and ecology In oak *Quercus*, or mixed oak, woodland. Associated with aspen *Populus tremula*, the larvae feeding in the catkins, predominantly the female ones. The latest of the three aspen *Dorytomus* species to emerge.

Status A rare native species, which occurs in good numbers in both of its restricted areas.

Threats Afforestation with exotics, especially conifers; the removal of aspen in forestry and management operations.

Conservation One site is an NNR, and NCC knows of the importance of the other area. Encouragement of aspen growth is essential in both areas.

Author M. G. Morris.

Pachytychius haemato-cephalus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Pachytychius haematocephalus (Gyllenhal, 1836).

Identification Fowler (1887-91), 5:267; Joy (1932), p.227.

Distribution Known from a restricted site at Gosport, Hampshire, for over a hundred years. There are other records from Devon, Wiltshire and Dorset, but the last two, in particular, are dubious and the Dorset occurrence is not localised.

Habitat and ecology Coastal grassland, in association with birdsfoot-trefoil *Lotus corniculatus*. The larvae develop in the pods, feeding on the unripe seeds.

Status A very local native species. Despite feeding on a very common plant, it has not been reliably recorded except at its one Hampshire locality.

Threats Obviously Endangered because of threats to the site from any kind of land-use change.

Conservation Protection of the site is required.

Author M. G. Morris.

Ceutorhynchus insularis

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Ceutorhynchus insularis Dieckmann, 1971.

Identification Dieckmann (1971), pp.581-583.

Distribution Known in Britain so far only from the remote island of St Kilda.

Habitat and ecology Coastal grasslands or sea shores in a few north European islands. The weevils live on scurvy-grass *Cochlearia*; the larval biology is unknown.

Status A recently-described species (1971), known elsewhere only from a few islands off the southern coast of Iceland. Probably a relict species, perhaps pushed into a restricted range and hostile environment by competition (?with *C. contractus* Marsham).

Conservation The only known British site is an NNR. The weevil and its habitat should be surveyed/monitored whenever practicable.

Author M. G. Morris.

Ceutorhynchus pilosellus

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Ceutorhynchus pilosellus Gyllenhal, 1837.

Identification Fowler (1887-91), 5:340-350; Joy (1932), pp.195-198.

Distribution Recorded from a number of scattered localities in the south of England and Wales, both on the coast and inland. The distribution is from Cornwall to Kent, and northwards to Surrey, Berkshire and Glamorgan. However, the only records in the last fifty years are from South Wales. It was said in 1936 to be common in the Gower and has recently been rediscovered in Mid Glamorgan.

Habitat and ecology All the published records are from sandy localities. The biology is very little known, either in Britain or abroad. The host-plant appears to be a sand-dune species of dandelion *Taraxacum*. The larvae probably feed in the capitula, as species in this group (subgenus *Glocianus*) are all feeders in the capitula of various dandelions or other yellow-flowered composites.

Status A native species which has probably always been very local, but which has been rare this century. Recorded from Merthyr Mawr, Mid Glamorgan, in May 1983 (P. Hodge, pers. comm.).

Threats Vulnerable to development of all kinds. Coastal sites are threatened by holiday developments and inland ones (if they still exist) by building, agriculture and afforestation.

Conservation Monitoring of the very restricted site of occurrence is needed.

Author M. G. Morris.

Ceutorhynchus querceti

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Ceutorhynchus querceti (Gyllenhal, 1813), formerly known as *Coeliodes querceti*.

Identification Fowler & Donisthorpe (1913), pp.195-197; Joy (1932), p.202.

Distribution Known in Britain only from the Norfolk Broads.

Habitat and ecology The sides of broads, ponds, etc., especially where winter-standing water dries out in summer. On marsh yellow-cress *Rorippa islandica* (?also great yellow-cress *R. amphibia*). The larvae feed in the stems.

Status A very local native species, but with good-sized populations.

Threats Drainage, eutrophication and land-use changes.

Conservation The weevil possibly occurs within nature reserves, but it should be ensured that the species is known to local conservationists and reserve managers. A survey of distribution and status would be helpful.

Author M. G. Morris.

Rhinoncus albicinctus

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Rhinoncus albicinctus Gyllenhal, 1837.

Identification Dieckmann (1972), p.25; Allen (1974a).

Distribution Known only from the Berkshire shore of Virginia Water. The area of occurrence is restricted.

Habitat and ecology Lakesides; a semi-aquatic species. The adult weevils rest on the floating leaves of amphibious bistort *Polygonum amphibium* f. *natans*; the larvae feed in the stems of the same plant. The adults overwinter on dry land, usually on banks of the lakes in which the foodplant grows.

Status Certainly a breeding species in Britain, but whether overlooked or accidentally introduced cannot be determined with any certainty. It is clearly very localised and rare. It was still present at Virginia Water in 1982 (P. Hodge, pers. comm.).

Threats The clearance of banks and shallow water for lake maintenance and in the interests of angling. Also suffers in severe, stormy weather.

Conservation Although the site is not likely to be threatened, too drastic removal of vegetation is to be avoided. Other sites for the species should be sought.

Author M. G. Morris.

Baris analis

A weevil — **ENDANGERED**

Order **Coleoptera** — Family **Curculionidae**

Baris analis (Olivier, 1790).

Identification Fowler (1887-91), 5:381; Joy (1932), p.217.

Distribution Known in Britain only from the Isle of Wight. Originally taken near Ryde (Fowler, *loc. cit.*) by several collectors, it was later found near Sandown by Champion in 1887. Thought to be extinct, it was rediscovered near Sandown by D. Appleton in 1984.

Habitat and ecology Low cliffs and damp, open places where the foodplant grows. The larvae feed in the lower stems and rootstocks of fleabane *Pulicaria dysenterica*.

Status A very rare resident species. Two specimens were taken by D. Appleton in 1984, on 31 March and 26 April respectively.

Threats Mainly accidental destruction of habitat by land-use changes, including increased tourism.

Author M. G. Morris, using additional information from D. Appleton (pers. comm.).

Tychius quinque-punctatus

A weevil — **VULNERABLE**

Order **Coleoptera** — Family **Curculionidae**

Tychius quinquepunctatus (L., 1758).

Identification Fowler (1887-91), 5:296-298; Joy (1932), p.219; Harde (1984), fig. 307:5.

Distribution There are scattered records throughout southern England from Devon to Sussex, and north to Norfolk. Always very

local and with few recent records. The New Forest, Hampshire (Woodfidley area), was a well-known locality. Extinct in many former localities. Recently discovered as a strong colony at Kenfig, Mid Glamorgan.

Habitat and ecology Wood edges, open areas, etc. It occurs on species of vetch (*Lathyrus* and *Vicia*) abroad. One of the main hosts in Britain is bitter vetch *Lathyrus montanus*. The larvae feed in the pods.

Status A rare native species, which has declined in many areas. There are no known records from the New Forest since 1967. It was recorded as "very common" on sand dunes at Kenfig in May 1983, and was new to Wales (P. Hodge, pers. comm.).

Threats Over-grazing of the foodplant by ponies in the New Forest. Development and land-use changes elsewhere.

Conservation Although it possibly still occurs in an area supposed to be conserved, unrestrained grazing by ponies has greatly threatened its continued existence in the New Forest. Temporary fencing from stock would be useful if an extant colony can be relocated there. The Kenfig colony should be monitored.

Author M. G. Morris.

Ernoporus caucasicus

A bark beetle — **ENDANGERED**

Order **Coleoptera** — Family **Scolytidae**

Ernoporus caucasicus Lindemann, 1876.

Identification Allen (1970c). Confused in earlier collections with *E. tiliae* Panzer (a Rare species).

Distribution Known from four sites: Moccas Park (Hereford & Worcester), Bedford Purlieus (Cambridgeshire), Swithland Wood (Leicestershire) and Rockingham Castle Park (Northamptonshire). It is extremely localised and is only ever recorded in small numbers.

Habitat and ecology In the bark of dead, thick branches of limes (*Tilia* species), mainly small-leaved lime *T. cordata*, but recently found in common lime *T.* x *vulgaris*.

Status Originally known only from specimens from one small-leaved lime in Moccas Park, which blew down in January 1976 and was cut up and removed the following June. The last recorded capture from this tree was in June 1954. On 27 May and 8 June 1980 several specimens were collected from two common limes in the Park. J. Cooter (1981b) examined specimens collected by D. Tozer off small-leaved lime from two east Midland localities. Those

from Bedford Purlieus, Wansford, Cambridgeshire, taken in June 1934 and July 1935 were all *E. caucasicus*, as was one specimen collected in Swithland Wood, near Leicester, on 12 February 1950, together with *E. tiliae*. Eight specimens were beaten from common limes in Rockingham Castle Park in June 1983 (Drane, 1985).

Threats

The destruction and replanting of ancient small-leaved lime sites.

Conservation

Moccas Park is now an NNR. With the acceptance of common lime as an alternative host plant, this population may be secure. Part of Bedford Purlieus has some protection as a local Trust reserve. The closure of the Corby steelworks has removed the main threat to the wood from ironstone quarrying. Ancient small-leaved lime sites in other Midland and Lincolnshire localities should be maintained.

Author

R. C. Welch, using additional information from Harding (1982).