

# THE COLEOPTERISTS' NEWSLETTER

Number 4 (May 1981)

At the time of writing, the weather is fine and the promise of a 'good season' is in the air - already I have taken Ampedus cardinalis, having gone out one afternoon for the sole purpose of finding it, took two within an hour and felt very self satisfied. 1980 was a good year with several species new to Britain being published, and others- Laricobius erichsoni and Oulimnius major not yet formally brought forward, a find of Anaspis schilskyana, Macronychus quadrituberculatus in what can only be described as 'considerable plenty' and the refinding of Ernoporus caucasicus in its old haunt and new localities. Lets hope that we can improve on this during 1981.

J.C.

## CHRYSOMELIDAE AND BRUCHIDAE RECORDING SCHEME.

The scheme is still in its infancy and its success depends not only upon my own efforts but also upon the support and assistance of fellow coleopterists throughout the British Isles. This is an appeal for records of chrysomelids and bruchids, and to anyone who may be willing to act as a recorder in this scheme. Please contact me at the address given below and I will send all necessary information and recording cards.

I am willing to identify any adults and especially those belonging to difficult genera such as Altica and Longitarsus and also larvae. The larvae, especially of Criocerinae, Chrysomelinae and Galerucinae are often encountered in the field and these should be identified wherever possible, especially when

adults are absent.

The leaf beetles feed on the primitive Equisetaceae, the monocotyledon and the more specialised dicotyledons. The majority of adults are leaf feeders, although a few species consume floral parts. They are thus most readily collected by either sweeping from low-growing herbaceous plants or by beating trees and bushes. Many of the larger and brightly coloured members of such genera as Chrysolina can be observed directly on their host plants and collected using a pooter. Adult halticids are often frequently caught in malaise, suction and yellow water traps as they readily fly. In addition tussock sampling, especially during the winter, can be very productive. The feeding habits of the larvae are more diverse as they may feed openly upon leaves, within leaves as miners, within stems and roots or externally upon roots in the soil.

The adults of Bruchids or seed beetles are collected by sweeping plants of the Leguminosae as they may feed upon their flowers and oviposit in their carpels. Their larvae feed within the developing seeds.

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#### GYROHYPNUS PUNCULATUS AND G. FRACTICORNIS.

In the Coleopterists Bulletin 32(4) 1978; 338 - 9, Dr. Smetana of the Biosystematics Research Institute, Ottawa, points out the differences between Gyrophypnus punctulatus (Payk.) and fracticornis (Mull.). Lohse, (1958 Neuheiten der deutschen Kaferfauna, Ent. Bl. 54:121-2) pointed out that two species were confused under punctulatus. He also figured differences in the shape of the head and the area of puncturation on the vertex. Early European authors listed fracticornis as a synonym of punctulatus, although, as Smetana points out, the former name has priority. He made a comparative study of both palaeartic and nearctic material and found that only one species (fracticornis) occurred in North America. He gives a key

by which to distinguish the two species and drawings of the aedeagi. In the British Isles I have found fracticornis to be much the commoner species with specimens from many localities including the Channel Islands, and also from several Continental countries and from New Zealand. I only have four specimens of punctulatus from Great Britain; N.Devon (2) Glamorgan (1) and Surrey (1), but have a series from Germany, Austria and Switzerland. The shape of the head does vary slightly as in several related Xantholines, but, besides the differences shown in the aedeagi, the area of puncturation on the vertex seems to be a reliable character. It would be interesting to hear of the experience of coleopterists regarding these two species.

Horace Last, 'Woodville', Hillside Walk, Storrington, West Sussex.

#### A BIOLOGICAL SURVEY OF NATIONAL TRUST PROPERTIES.

In May 1979 the newly-formed Biological Survey Team of the National Trust began fieldwork in Cornwall - the start of a five or six year project to cover all Trust properties in England and Wales. The main objectives are to assess the value to nature conservation of the properties for habitat and species protection. With such a large area to be covered, and with the limited resources available, the survey cannot hope to be comprehensive, but it attempts to record the essential features of each site. It aims to form a basis for the continuing process of management action, monitoring and recording.

The importance of the Trust's holdings has been highlighted with the publication of the Nature Conservation Review (1977) from which it was calculated that the N.T. owns 117 Grade 1 sites (116,000 acres), 42 Grade 2 sites (21,000 acres) and 183 Grades 3 and 4 sites (66,000 acres), within its present ownership of some 400,000 acres of countryside. Nearly 20,000 acres already have nature reserve status.

Land management must be based on as sound a knowledge of the area as possible, and nature conservation interest is all too easily lost or diminished if information on important species or habitats is not made available to the land managers. Many invertebrates have very restricted distributions, specialised habitat requirements or poor rates of dispersal and colonisation abilities. Whereas most do not require special consideration, many do, and it is important that the presence of these is recognised.

A pilot survey was carried out jointly with the British Ecological Society in Kent, Norfolk and Yorkshire during 1976 and 1977 to examine the

feasibility of a full survey. The results were favourable and the organisation of a full survey went ahead.

A brief appraisal of each site is made in the field to establish the obvious vegetation and habitat types. These are then described in terms of structure and species present. My job as the team zoologist is to sample the invertebrate fauna of the sites and to note the presence of birds, mammals etc. Field survey is supplemented by examination of local literature, and consultation with the Nature Conservancy Council, local Naturalist's Trusts, local biological recording centres, and local professional and amateur naturalists. All of this information is then put together in a report and recommendations made on the management of the site and its priority level.

Fragmentation of the bulk of the information on sites is perhaps the main headache in this work. Where sites have been visited by specialists, any information published is widely scattered through the various journals and newsletters, and the bulk generally left unpublished and unnotified. Of course, collecting on N.T. land is contrary to the bye-laws, and anyone wishing to collect should seek the permission of the relevant regional office of the Trust. It is appreciated if the results of such collecting are notified to the office. In this way, collecting pressure can be controlled, and a complete picture of the fauna of the sites will be built up.

Reports are written over the winter months, and are sent to the relevant regional offices, of which there are 17 in England and Wales. These will be used as a basis for the full management plans. Copies of the reports are held by the N.T., N.C.C., and some local biological recording centres, and their use is carefully controlled. Information received after the properties have been surveyed is as important as that used in the construction of the reports. Full management plans are written some time after the reports, and will require continual updating.

Cornwall was covered in 1979, and Devon hurried through afterwards - full management plans already exist for most of the Devon properties. In 1980 we moved to Cumbria where most Trust properties are within the Lake District National Park. Some of the more notable properties here are: Borrowdale (the Trust owns a very high proportion of this wooded dale); Low Wood, Hartsop; Glencoyne Wood, Ullswater; Scafell Pike; Langdale Pikes; much of the Derwent and Buttermere Fells; and also, Sizergh Estate (including Brigsteer Wood), all on the Carboniferous Limestone of the Morecombe Bay area. The 1981 field season will be spent in Wales where the Trust owns important sites in Pembrokeshire, the Gower,

the Brecon Beacons, Snowdonia and the Lleyn Peninsula.

Keith Alexander, National Trust, Phoenix House, Cirencester, Gloucs.

NOTES ON THE IDENTIFICATION OF SOME CARABIDAE - 1.

Whilst many coleopterists have no difficulty with identification of most, or even any, of the British Carabidae, my experience of specimens received from less-experienced beetle collectors suggests that certain species are frequently mis-identified, or lead to un-needed confusion. This arises partly out of anomalies in the Coleoptera, Carabidae volume of the 'Handbooks for the Identification of British Insects' Vol. 4(2) (1974) by Prof. C.H.Lindroth, (hereafter referred to as the 'Handbook'). The purpose of these notes is largely to provide guidance on some of the more frequently mis-interpreted sections of this otherwise invaluable work. It is not intended to provide keys to 'difficult' groups such as the Ophonus section of Harpalus, but merely to make available to a wider readership comments which I find myself repeating frequently in letters or in conversation to aspiring Carabid hunters.

The notes will, it is hoped, continue to appear sporadically in future issues of the 'Newsletter'. Any comments on their usefulness (or otherwise), or suggestions for species on which notes would be welcome, would be most helpful.

1. Lighting. Good lighting is important in order to observe many features of surface sculpturing, especially the dorsal elytral puncture(s) in many species. If a high magnification is needed an 'intensity lamp' comprising a condensing lens in front of a 12volt car headlamp bulb (or equivalent) is invaluable for brightness, but leads to excessive scattering of light from highpoints on the cuticle. An inexpensive way of overcoming this (passed on to me by the late Mr. G.Shephard) is to place a diffusing ring around the specimen(s), then focussing the light onto the side of this ring. A suitable ring can be made from a piece of tracing paper or greaseproof paper, 4cm x 17cm, bent round and glued to form a cylinder, 4cm high x 5cm diameter approx. This is large enough to place round two or three mounted specimens pinned side by side for comparison. Under the even but bright light which results, the elytral punctures of, for example, Amara, Harpalus, Acupalpus and Dromius can easily be distinguished. The diffusing ring, used in conjunction with one or two intensity lamps, or an electronic flash, also enables clear photographs to be taken with almost shadow-free illumination.

2. Carabus violaceus/problematicus. It is surprising that these two distinct species should be confused with each other, but several records of 'violaceus' have turned out in fact to be problematicus, possibly because inexperienced collectors consider that all violet-bordered Carabus must be that species. Not only does problematicus usually have more distinct longitudinal elytral sculpturing (by which it is separated in the 'Handbook', couplet 6, p22) but it usually has distinctly less elongated elytra: the elytral length/combined breadth ca. 1.6 in problematicus, usually greater than 1.7 in violaceus. In proportion to the elytra, the pronotum of violaceus is broader with slightly sinuate lateral margins in front of the hind angles; the margins of problematicus are usually not sinuate, and the overall outline of pronotum and elytra is quite characteristic in most specimens of each species.

3. Nebria brevicollis/salina. Although the 'Handbook' (p29-30, couplet 4) states that brevicollis has both the mid and hind tarsi pubescent above, whereas all tarsi are glabrous in salina, this is not correct. Only the hind tarsi enable the two species to be distinguished. The front and mid tarsi are pubescent in both species. To see the pubescence in brevicollis, turn the specimen so that its posterior faces the light and tilt it so that the light reflects off the dorsal surface of the hind tarsi. (Do not use a diffusing ring). Under high magnification (x 25 or more) you will see two rows of fine bristles or hairs, about six on each segment. Even if many of these bristles have been abraded, one or usually two remain (sometimes glued down to the dorsal surface of the tarsi if too much glue was used when mounting). These are completely absent on the hind tarsi of salina, apart from two at the apex of the fifth segment.

The difference in the microsculpture mentioned in the 'Handbook' is a useful confirmatory character, especially if the hind tarsi are missing. It is, however, comparative, and needs a magnification of at least x50 to distinguish. It also varies from one part of the elytra to another in any one specimen, so similar parts of each elytron should be compared in examples of each species. I find that near the dorsal puncture roughly one-third from the apex of the elytra is a suitable region, using diffused light coming from the rear of the specimen. In brevicollis the microsculpture of this region is so fine and transverse under x50 magnification that the intervals between transverse grooves are barely visible, whereas in salina the 'cells' show up as slightly transverse blocks, arranged in irregular transverse rows.

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