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**Report on the Coleopterous Fauna of the Roman Well at Barnsley
Park**

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Report on the Coleopterous Fauna of the Roman Well at Barnsley Park, Gloucestershire

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THE material from which the beetle fauna was recovered was a sample of about 10 pounds of a highly organic mud, full of small sticks and moss fragments that filled the lower part of a well, sealed by fourth century building debris. The mud clearly accumulated at the time when the Barnsley Park Villa was inhabited and thus the age of the fauna can be fixed precisely. Apart from insects the mud contained large numbers of bones of house mouse, common shrew, vole and frog. There were also, though more rarely, indeterminate fragments of fish. Molluscs included terrestrial species living in the neighbourhood and also broken shells of mussels and oysters. In this report, however, only the beetles are dealt with in detail.

The beetle fragments were recovered from the mud by washing it over a 300 micron sieve. We have found that this is the optimum size of mesh to use, since any larger apertures let through many useful and important fragments, whilst smaller mesh sizes tend to hold back large residues without increasing the number of diagnostic fragments recovered. After thorough washing the residue on the sieve was drained, but not dried, and vigorously mixed with its own volume of paraffin in a large bowl. Surplus paraffin was then drained off and a large quantity of water introduced so that the debris that floated could be decanted without disturbing the bulk of the material which remained at the bottom. Most of the insect remains were concentrated in the floating fraction which had to be thoroughly washed, first in detergent and then in alcohol to remove the paraffin. It now remained to search through this fraction in a shallow dish of alcohol under a binocular microscope and the insects found were then stored in tubes of alcohol.

The fauna

All the diagnostic fragments recovered could be matched precisely with present day species living in Britain. The nomenclature in the list which follows is according to Kloet and Hincks (1945).

COLEOPTERA

Carabidae

- Carabus monilis* F.
Carabus problematicus Hbst.
Carabus violaceus L.
Leistus spinibarbis (F.)
Nebria brevicollis (F.)
Notiophilus aquaticus (L.)
Loricera pilicornis (F.)
Clivina fossor (L.)
Bembidion guttula (F.)
Trechus quadristriatus (Schrank) or
obtusus Er.
Trechoblemus micros (Hbst.)
Harpalus aeneus (F.)
Pseudophonus rufipes (Deg.)
Amara bifrons (Gyll.)
Amara aulica (Pz.)
Stomis pumicatus (Pz.)
Feronia coerulescens (L.)
Feronia vernalis (Pz.)
Feronia nigra (Schall.)
Feronia melanaria (Ill.)
Feronia madida (F.)
Abax parallelopedus (Pill. & Mitt.)
Calathus fuscipes (Goeze)
Calathus melanocephalus (L.)
Agonum mulleri (Hbst.)
Agonum gracile (Gyll.)

Dytiscidae

- Hydroporus* sp.

Hydrophilidae

- Ochthebius bicolon* Germ.
Ochthebius minimus (F.)
Helophorus nubilus F.
Helophorus aquaticus (L.)
Helophorus brevipalpis (agg.)
Sphaeridium bipustulatum F.
Sphaeridium scarabaeoides (L.) or
lunatum F.
Cercyon spp.
Megasternum obscurum (Marsh.)
Hydrobius fuscipes (L.)

Silphidae

- Aclypea undata* (Muell.)
Silpha obscura L.

Staphylinidae

- Micropeplus fulvus* Er.
Micropeplus porcatus (F.)

Staphylinidae—continued

- Phyllodrepa vilis* (Er.)
Omalius rivulare (Pk.)
Omalius caesum Gr.
Xylochromus concinnus (Marsh.)
Acidota cruentata (Mann.)
Lesteva longelytrata (Goeze)
Coprophilus striatulus (F.)
Oxytelus rugosus (F.)
Oxytelus inustus Gr.
Oxytelus sculpturatus Gr.
Oxytelus nitidulus Gr.
Platystethus arenarius (Geoff. in Fourc.)
Platystethus cornutus (Gr.)
Platystethus nitens Sahlb.
Stenus crassus Steph.
Lathrobium longulum Gr.
Xantholinus glabratus (Gr.)
Xantholinus linearis (Ol.) or
longiventris Heer
Philonthus laminatus Creutz.
Staphylinus olens Muell.
Tachyporus sp.
Tachinus rufipes (Deg.)
Tachinus laticollis Gr.

Pselaphidae

- Amauronyx maerkeli* (Aube)

Histeridae

- Onthophilus striatus* (Forst.)
Hister purpurascens Hbst.

Elateridae

- Adelocera murina* (L.)
Agriotes obscurus (L.)

Nitidulidae

- Brachyterus* sp.

Cucujidae

- Oryzaephilus surinamensis* (L.)

Cryptophagidae

- Cryptophagus* sp.

Lathridiidae

- Enicmus minutus* (L.)
Corticarina fuscula (Gyll.)

Anobiidae

- Anobium punctatum* (Deg.)

Ptinidae

- Tipnus unicolor* (Pill. & Mitt.)

COLEOPTERA—continued

Scarabaeidae

Onthophagus ovatus (L.)
Geotrupes spiniger (Marsh.)
Geotrupes vernalis (L.)
Aphodius rufipes (L.)
Aphodius spp.
Oxyomus sylvestris (Scop.)
Phyllopertha horticola (L.)

Chrysomelidae

Phyllotreta nigripes (F.)
Phyllotreta sp.
Aphthona sp.
Chaetocnema sp.
Cassida sp.

Curculionidae

Apion hydrolapathi (Marsh.)
Apion aeneum (F.)
Apion urticarium (Hbst.)
Apion carduorum Kirby
Apion craccae (L.)
Apion pisi F.
Apion spp.
Sitona hispidulus (F.)
Alophus triguttatus (F.)
Phytonomus austriacus (Schrank)
Ceuthorrhynchidius horridus (Pz.)
Ceuthorrhynchus pollinarius (Forst.)
Gymnetron labile (Hbst.)

Notes on selected species:

Feronia madida

In Britain today this is a very familiar species about houses and gardens and is one of our commonest carabid beetles. It is therefore interesting to note that this is the first time that we have encountered it in a fossil assemblage, although it has been recorded from 'interglacial' faunas by Bell (1922). Since most of the faunas that we have investigated are earlier than the period of settled habitation in Britain it is likely that this species owes its present widespread distribution largely to human influence.

Aclypea undata

This rare species is confined to the southern part of Britain. It is phytophagous, living on young shoots and sometimes in central Europe it is a pest on beetroot.

Amauronyx maerkeli

This is another rare species, today sporadic in its occurrence as far north as south eastern Yorkshire. It is usually found in association with ants, particularly *Lasius fuliginosus* (Lat.), and may well be dependent on them.

Oryzaephilus surinamensis

This is perhaps the most exciting species encountered in this fauna. Today it is always found in stored food products (e.g., grain, sugar, etc.,) and is usually considered to have been imported into western Europe by modern commercial traffic. It has, however, been found

by us in a first century Roman refuse pit at Alcester, Warwickshire (in Ms), where it was quite abundant. In both these cases the possibility of modern contamination is very unlikely since the deposits were sealed in by later accumulations and great care was taken to prevent contamination during excavation. This species was recognised among other stored product insects in a vase from the tomb of Tutankhamen (Zacher, 1937) and the genus *Oryzaephilus* was recognised from the Roman occupation site at Herculaneum (Dal Monte, 1956). It thus seems clear that even if *O. surinamensis* was introduced by trade into western Europe it was already well established in Britain during the Roman occupation.

All the species in the faunal list might be found today in any settled rural area in the southern part of England. Some of the species, such as the Dytiscidae and some of the Hydrophilidae, could have lived in the well itself. Of the rest, many of the larger Carabidae probably fell in whilst others were thrown in with rubbish (*vide* mussels, oysters, bones, etc.), since by far the majority are inhabitants of accumulations of vegetable refuse or dung. Of the Phytophagous species, most (e.g., *Alophus*, *Apion* species, *Ceuthorrhynchus*, *Ceuthorrhynchidius*) live on agricultural weeds like plantains, docks, nettles, etc., whilst some (e.g., *Agriotes*, *Adelocera*, *Phytonomus*) live in pasture land consisting mainly of grasses and clovers.

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