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**STAPHYLINIDAE FROM UNDER BARK AND AT SAP OF TREES,
A PRELIMINARY SURVEY OF SPECIES POSSIBLY
BENEFICIAL TO FORESTRY (COLEOPTERA)**

E. F. Legner and Ian Moore ¹

ABSTRACT

Two hundred and one species of Staphylinidae known to be found under bark or at sap of trees are listed. The possibility of these insects being important elements in the population dynamics of forest pests is discussed. An indication is given of the distribution and habitat of each species.

A large percentage of the species of Staphylinidae whose ecology has been observed is predaceous. Therefore, members of this family may play an important role in the population dynamics of pest insects in their special habitats. Considering the large body of literature on the Staphylinidae, a very small amount of data is available on habitats, food habits and biologies of the approximately 30,000 described species. Consequently, information about species to be considered as candidates for biological control of pests in restricted habitats is difficult to obtain. The following list is intended to be an aid in that direction.

Among Staphylinidae which are adapted for a subcortical habitat, most are well suited to that habitat by their depressed form. Many species known only from museum specimens are suspected to be subcortical by the dorso-ventral flattening of the body but actual data are lacking.

Two subfamilies, Piestinae and Lispinae, have a larger percentage of their species with a subcortical habitat than the others, particularly as reported from the temperate fauna. They have a very high percentage of tropical species whose habitats are unreported; but, judging from their form are probably mostly subcortical. Some genera of other subfamilies such as in the Tachyporinae add quite a few species to our list but are known often to be associated with fungus. It is possible that their presence under the bark of dead trees is due to the presence of fungus in that situation. Many such problems need to be investigated before the best use of any of these insects as biological control agents can be ascertained.

The following list is compiled from the examination of a large percentage of the existing literature, a very small part of which contains ecological data. This fact is attested by the small size of the appended bibliographic list from which it was extracted. Only species actually reported as being associated with trees, so encountered, or examined with such data are included.

The capital letters in parentheses following the specific names indicate their reported distribution: A = Australian-Pacific, E = Ethiopian, H = Hawaiian, N = Nearctic, O = Oriental, T = Neotropical. The lower case letters indicate habitat: b = under bark, s = at sap.

LIST OF SPECIES

Subfamily ALEOCHARINAE

Aleochara ruficornis Gravenhorst (P, b)
Aleodorus bilobatus Say (N, b)

Anomognathus cuspidatus Erichson (N, P, b)
Atheta aequata Erichson (P, b)

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- A. autumnalis* Erichson (P, b)
A. bassicornis Mulsant & Rey (N, P, b)
A. celata Erichson (P, s)
A. coriaria Kraatz (P, s)
A. euryoptera Stephens (N, P, s)
A. fungicola Thomson (P, s)
A. linearis Gravenhorst (P, b)
A. nigricornis Thomson (P, b, s)
A. picipes Thomson (P, b)
A. pilicornis Thomson (P, b)
A. sericea Mulsant & Rey (P, s)
A. subcorticalis Cameron (O, b)
A. triangulum Kraatz (P, s)
Coenonica championi Cameron (O)
C. mangpuensis Cameron (O, b)
C. subopaca Cameron (O, b)
C. puncticollis Kraatz (P, E, O, s)
Cordalia vestita Boheman (O)
Cyphea curtula Erichson (P, b)
Dadobia immersa Erichson (P, b)
Geostiba ruficollis Erichson (P, b)
Homalata brunneicollis Cameron (O, b)
H. plana Gyllenhal (P, b)
H. uniformis Cameron (O, b)
Leptusa angustata Aubé (P, b)
Mimacrotona singulata Cameron (P, O, b)
M. uniformis Cameron (O, b)
Neoleptusa brunnea Cameron (O, b)
Ocyusa incrassata Kraatz (P, b)
Oligota variegata Blackburn (H, b)
Oxyopoda vittata Märkel (P, s)
Phloeopora corticalis Gravenhorst (P, b)
P. diluta Sharp (H)
P. montana Cameron (O)
P. sublaevis Casey (N, b)
P. reptans Gravenhorst (P, b)
P. teres Gravenhorst (P, b)
P. testacea Mannerheim (P, b)
Placusa denticulata Shapp (P, s)
P. fratercula Cameron (O, b)
P. infima Erichson (P, b)
Placusa pumilio Gravenhorst (P, b, s)
Pseudatheta elegans Cameron (O)
Silusa rubiginosa Erichson (P, b, s)
Sipalia analis Gyllenhal (P, s)
S. fumida Erichson (P, b)
Stichoglossa corticina Erichson (P, O, b)
S. indica Cameron (O, b)
S. prolixa Gravenhorst (P, b)
Tachyusida gracilis Erichson (P, b)
Thamniaraea cinnamomea Gravenhorst (P, s)
T. hospita Märkel (P, s)
Thectura cuspidata Erichson (P, b)
Troposilusa armata Cameron (O)

Subfamily HYPOCYPHTINAE

Anacyptus testaceus LeConte (N, T, b)

Subfamily LISPININAE

- Ancaeus pallescens* Blackburn (H, b)
Cephalonyxum rambouseki Bierig (T, b)
Clavilispinus californicus LeConte (N, b)
Glyptoma trinidadensis Blackwelder (T, b)
Lispinodes explicandus Sharp (H, b)
Lispinus attenuatus Erichson (T, b)
L. bistriatus Fauvel (O, b)
L. boxi Blackwelder (T, b)
L. catena Sharp (T, b)
L. danforthi Blackwelder (T, b)
L. impar Blackwelder (T, b)
L. impressicollis Motschulsky (H, b)
L. irregularis Blackwelder (T, b)
L. foveolus Blackwelder (T, b)
L. morugae Blackwelder (T, b)
L. nigrifrons Fauvel (T, b)
L. striola Erichson (T, b)
L. tenellus Erichson (T, b)
Neolispinodes exiguus Erichson (T, b)
N. politus Sharp (T, b)
N. rulomus Blackwelder (T, b)
Renardia nigrellus LeConte (N, b)
Tetrapleurus himalayicus Cameron (O, b)
Thoracophorus brevicristatus Horn (N, T, b)
T. corticinus Motschulsky (P, b)
T. guadalupensis Cameron (T, b)
T. simplex Wendler (T, b)

Subfamily MEGALOPSIDIINAE

Megalopinus caelatus Gravenhorst (N, b) *M. smithi* Cameron (T, b)

Subfamily MICROPEPLINAE

Micropeplus brunneus Mäklin (N)

Subfamily OLISTHARINAE

Olisthaerus megacephalus Zetterstedt (N, P, b) *O. substriatus* Gyllenhal (N, P, b)

Subfamily OMALIINAE

Acrulia inflata Gyllenhal (P, b)*A. tumidula* Mäklin (N, b)*Anthobium tectum* Paykull (P, s)*Arpedium cribratum* Fauvel (N, b)*Coryphium angusticolle* Stephens (P, b)*Hapalaraea brevicorne* Erichson (P, b)*H. flavipenis* Cameron (O)*H. gracilicorne* Fairmaire (P, b)*H. ioptera* Stephens (P, b)*H. pygmaea* Gyllenhal (P, b)*H. vile* Erichson (P, b)*Phloeonomus concolor* Kraatz (P, b)*P. minimus* Erichson (P, b)*P. peneti* Thomson (P, b)*P. planum* Paykull (P, b, s)*P. punctipenne* Thomson (P, b)*P. pusillum* Gravenhorst (N, P, b)*Pycnoglypta lurida* Gyllenhal (N, P, b)*Xylodromus monilicorne* Gyllenhal (P, b)

Subfamily OXYTELINAE

Oxytelus bledioides Blackburn (H, b)

Subfamily PAEDERINAE

Homaeotarsus badium Gravenhorst (N, b)*Lathrobium armatum* Say (N, s)

Subfamily PHLOEOCHARINAE

Phloeocharis subtilissima Mannerheim (P, b)

Subfamily PIESTINAE

Hypotelus insulans Bierig (T, b)*Piestus penicillatus* (Dalman) (T, b)*Siagonium americanum* Melsheimer (N, b)*S. humerale* Germar (P, b)*S. punctatum* LeConte (N, b)*S. quadricorne* Kirby (P, b)*S. stacesmithi* Hatch (N, b)*Trigonurus asiaticus* Reiche (P, b)*T. dilaticollis* Van Dyke (N, b)*T. caelatus* LeConte (N, b)*T. crotchei* LeConte (N, b)*T. melleyi* Mulsant & Rey (P, b)*T. sharpi* Blackwelder (N, b)

Subfamily PINOPHILINAE

Palaminus testaceus Erichson (N, b)*Pinophilus speculifrons* Cameron (O)

Subfamily PROTEININAE

Megarthus arcuatus Hatch (N)*Metopsia clypeatum* Müller (P, b)

Subfamily QUEDIINAE

Ctenandropus nicriceps Cameron (O, b)*Heterothops occidentalis* Casey (N, b)

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|---|---|
| <i>H. pusio</i> LeConte (N, b) | <i>Q. perigrinus</i> Gravenhorst (N, b) |
| <i>Quedius brevicornis</i> Thomson (P, b) | <i>Q. rainieri</i> Hatch (N, b) |
| <i>Q. charactus</i> Hatch (N, b) | <i>Q. rusticus</i> Smetana (N, b) |
| <i>Q. cruentus</i> Olivier (P, b) | <i>Q. simplex</i> Hatch (N, b) |
| <i>Q. fumatus</i> Stephens (P, b) | <i>Q. scitus</i> Gravenhorst (N, b) |
| <i>Q. laevigatus</i> Gyllenhal (N, P, b) | <i>Q. velox</i> Smetana (N, b) |
| <i>Q. longicornis</i> Kraatz (P, b) | <i>Q. xanthopus</i> Erichson (P, b) |

Subfamily STAPHYLININAE

- | | |
|---|---|
| <i>Belonuchus ceylonicus</i> Cameron (O, b) | <i>H. laevis</i> Blackwelder (T, b) |
| <i>B. formosus</i> Gravenhorst (N, T, s) | <i>Laetulonthus laetulus</i> Say (N, b) |
| <i>B. gardeneri</i> Cameron (O, b) | <i>Paracraspedomerus speculifrons</i> Fauvel (A, b) |
| <i>B. rufoniger</i> Fauvel (O, b) | <i>Philonthus chalceus</i> Stephens (N, P, s) |
| <i>Diplostictus chenui</i> Perroud (A, b) | <i>P. crestonensis</i> Hatch (N, b) |
| <i>Erichsonius fraterculus</i> Horn (N, b) | <i>P. flavocinctus</i> Motschulsky (A, b) |
| <i>Holisis guildingii</i> Erichson (T, b) | <i>P. imitator</i> Cameron (O, b) |

Subfamily TACHYPORINAE

- | | |
|---|---|
| <i>Coproporus ebonus</i> Blackwelder (T, b) | <i>S. kiteleyi</i> Campbell (N, b) |
| <i>C. hepaticus</i> Erichson (T, b) | <i>S. littoreus</i> Linné (N, P, b) |
| <i>C. lecontei</i> Blackwelder (N, b) | <i>S. marshami</i> Stephens (N, P, b) |
| <i>C. monticola</i> Cameron (O, b) | <i>S. oculus</i> Casey (N, b) |
| <i>C. ventriculus</i> Say (N, b) | <i>S. opicus</i> Say (N, b) |
| <i>Lordithon intrusus</i> Horn (N, b) | <i>S. scriptus</i> Horn (N, b) |
| <i>Sepedophilus basalis</i> Erichson (N, b) | <i>S. smetanai</i> Campbell (N, b) |
| <i>S. beckeri</i> Campbell (N, b) | <i>S. stephani</i> Campbell (N, b) |
| <i>S. castaneus</i> Horn (N, b) | <i>S. testaceus</i> Fabricius (N, P, b) |
| <i>S. cinctus</i> Erichson (N, b) | <i>Tachinus angustatus</i> Horn (N, b) |
| <i>S. ctenidialis</i> Campbell (N, b) | <i>T. debilis</i> Horn (N, b) |
| <i>S. hermani</i> Campbell (N, b) | |

Subfamily TRICHOHYINAE

- Trichophya pilicornis* Gyllenhal (N, P, O, b)

Subfamily XANTHOLININAE

- | | |
|--|---|
| <i>Atrecus affinis</i> Paykull (P, b) | <i>Nudobius cephalus</i> Say (N, b) |
| <i>A. alternans</i> Gravenhorst (P, b) | <i>N. collaris</i> Erichson (P, b) |
| <i>A. longiceps</i> Fauvel (P, b) | <i>N. lentus</i> Erichson (P, b) |
| <i>A. pilicornis</i> Paykull (P, b) | <i>Oligolinus filarius</i> Erichson (T, b) |
| <i>Hyponygrus illucens</i> Erichson (T, b) | <i>O. testaceipennis</i> Fauvel (P, b) |
| <i>H. glaber</i> Nordmann (P, b) | <i>Stenolinus macrothricus</i> Bierig (T, b) |
| <i>H. gularis</i> LeConte (N, b) | <i>Zeteotomus brevicornis</i> Erichson (P, b) |
| <i>Microlinus pusio</i> LeConte (N, T, B) | |

Subfamily XANTHOPYGINAE

- Holisomimus parvus* Cameron (O, b)

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