

## MORPHOLOGY AND MORPHOMETRICS OF *BURSAPHELENCHUS* (NEMATODA: APHELENCHOIDIDAE) SPECIES FROM PINE WOOD OF POLAND

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**Abstract.**— Four species of *Bursaphelenchus* were found in survey of pine wood are described: *B. mucronatus*, *B. naujaci*, *B. pinophilus* sp. n. and *B. glochis* sp. n. The analysis of various morphological characters brought to the conclusion the following are constant and useful as the main diagnostic features: shape of spicules, shape and size of anterior vulval lip, arrangement of cells in gonads, thickenings of stylet base and shape of female tail.



**Key words.**— Nematoda, *Bursaphelenchus*, taxonomy, pine wood nematode

## RELATIONS BETWEEN *FORMICA SANGUINEA* LATR. AND *FORMICA CINEREA CINEREA* MAYR (HYMENOPTERA, FORMICIDAE) – AN UNUSUAL FORM OF DULOSIS

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**Abstract.**— The paper is devoted to enslavement of adult *Formica cinerea cinerea* Mayr workers by *Formica sanguinea* Latr., a phenomenon hitherto unknown under natural conditions. Such enslavement follows periodic invasions and temporary occupation of nests of a slave species by *F. sanguinea*. During the occupation of their nest, some *F. cinerea* workers join the occupants colony. The studies were made in Poland and in Finland between 1994 and 1996..



**Key words.**— ants, *Formica sanguinea*, *Formica cinerea*, social parasitism, slavery, eudulosis, mixed colonies, aggressive behaviour.

# TRACING THE ROUTES OF SPECIATION IN *MESOCYCLOPS WOUTERSI*-SUPERSPECIES (COPEPODA: CYCLOPOIDA)

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**Abstract.**— Morphological comparisons among three allopatric representatives of the *Mesocyclops thermocyclopoides*-group – *Mesocyclops parentium* **sp. nov.** (southern India, Sri Lanka), *Mesocyclops woutersi* Van de Velde, 1987 (New-Guinea–Indochina–Ryukyu Is.) and *Mesocyclops dissimilis* Defaye et Kawabata, 1993 (Honshu, Kyushu Is.) – revealed a very slight degree of divergence, as compared to that of sympatric species of the group. Clear-cut differences in some characters (presence/absence of spinules at base of antero- and posterolateral furcal setae, hair rows on dorsum of pediger 5) do nevertheless indicate genetic discontinuity among the species. The separation of *M. dissimilis* is also expressed in quantitative traits, some of them (increase of relative length of the apical exopod and baseoendopod setae of leg 5, the dorsal furcal setae and third endopodal segment of leg 4) being very probably adaptations for pelagic life. *Mesocyclops guangxiensis* Reid et Kay, 1992 is synonymized with *M. woutersi* Van de Velde, 1987, **syn. nov.**

Parsimony, zoogeographical and ecological considerations leave two hypotheses of relationships within the trio likely: either the ancestor of the group was *M. parentium*-like; or the ancestor was different from all three.



**Key words.**— Copepoda, *Mesocyclops parentium* *sp. nov.*, speciation, pelagic adaptations, Asia.

# REVISION OF THE TRIGONOPOID PLATYNOTINA (COLEOPTERA, TENEBRIONIDAE, PLATYNOTINI). PART I. GENERA *AMBLYCHIRUS* KOCH, *MELANOPTERUS* MULSANT ET REY, *SELINOPODUS* KOCH AND *TRIGONOPUS* MULSANT ET REY.

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**Abstract.**— Four genera of the trigonopoid Platynotina are revised: *Amblychirus* Koch, *Melanopterus* Mulsant et Rey, *Selinopodus* Koch and *Trigonopus* Mulsant et Rey. Six new species to science are described: *Trigonopus sigillatus*, *T. similis*, *T. danielssoni*, *T. signus*, *T. cochranee* and *Amblychirus pseudobrevior*. A new synonymy is proposed: *Melanopterus porcus* (Mulsant et Rey, 1853) (= *Trigonopus exaratus* Mulsant et Rey, 1853). Lectotypes are designated. The genus *Melanopterus* is reinterpreted. Keys for species determination are provided.

**Key words.**— entomology, taxonomy, revision, Coleoptera, Tenebrionidae, trigonopoid Platynotina, South Africa.

## GENERIC SYNONYMY OF *ARCTOBYRRHUS* MÜNSTER AND *TYLICUS* CASEY (INSECTA: COLEOPTERA: BYRRHIDAE)

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**Abstract.**— *Arctobyrrhus* Münster is distinct from *Morychus* Erichson and is removed from synonymy with the latter. *Tylicus* Casey is newly synonymized with *Arctobyrrhus*, and *T. subcanus* is transferred to *Arctobyrrhus*. This genus is holarctic in distribution and comprised of *A. dovrensis* Münster in Eurasia, and *A. subcanus* (LeConte) in North America. *Arctobyrrhus* is redescribed with larval characters, and a key to species is provided.



**Key words.**— Byrrhidae, *Arctobyrrhus*, *Tylicus*, taxonomy.

## THE GENUS *MYRMICA* LATR. (HYMENOPTERA, FORMICIDAE) IN POLAND – A SURVEY OF SPECIES AND A KEY FOR THEIR IDENTIFICATION

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**Abstract.**— The paper contains a taxonomic review of 13 species of the genus *Myrmica* Latr. occurring in Poland with information on their geographical ranges, distribution in Poland and biology. The following species are under discussion: *M. rubra* (L.), *M. ruginodis* Nyl., *M. sulcinodis* Nyl., *M. lobicornis* Nyl., *M. rugulosa* Nyl., *M. gallieni* Bondr., *M. hellenica* For., *M. specioides* Bondr., *M. scabrinodis* Nyl., *M. sabuleti* Mein., *M. lonae* Finzi, *M. hirsuta* Elmes and *M. schenckii* Viereck. A key for identifying them on the basis of workers and males is included.



**Key words.**— ants, *Myrmica*, taxonomy, zoogeography, biology, fauna, Poland, catalogue, key

## **TETRAPONERA PISARSKII SP. NOV. – THE FIRST NATIVE MEMBER OF SUBFAMILY PSEUDOMYRMICINAE FROM PALAEARCTIC ASIA**

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**Abstract.**— *Tetraponera pisarskii* sp. nov. is described from worker, from North Korea. It is the first native *Tetraponera* species in Palaearctic Asia. New species differs from all Asian *Tetraponera* in ochraceous-yellow colour of body.



**Key words.**— Hymenoptera, Formicidae, *Tetraponera*, taxonomy, Korea.

## **COMMON ACTIVITIES OF FEMALE SEXUALS OF *LASIUS UMBRATUS* (NYL.) AND *FORMICA SANGUINEA* LATR. OR *POLYERGUS RUFESCENS* (LATR.) ON NESTS OF THE DULOTIC SPECIES (HYMENOPTERA, FORMICIDAE)**

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**Abstract.**— Instances of presumed plesiobiosis (compound nests) of *Lasius umbratus* (Nyl.) with *Formica sanguinea* Latr. and of *L. umbratus* with *Polyergus rufescens* (Latr.) are presented. At the time of nuptial flights, on the surface of nests of the dulotic species (both with enslaved *Formica cinerea* Mayr workers) appeared young queens of a given slave-keeper and queens of *L. umbratus*; local workers of *F. sanguinea* and (or) of *F. cinerea* treated them in the same way. The phenomenon was observed from 1992 to 1995 near Puławy (S-E Poland).



**Key words.**— ants, *Lasius umbratus*, *Formica sanguinea*, *Polyergus rufescens*, *Formica cinerea*, social parasites, nuptial flight, plesiobiosis, compound nests, mixed colonies.

# GENERA OF COLYDIINAE (COLEOPTERA: ZOPHERIDAE) OF THE AUSTRALO-PACIFIC REGION

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**Abstract.**— The genera of Colydiinae (Coleoptera, Zopheridae) of the Australo-Pacific are revised. The group, as currently delimited, includes genera of the former family Colydiidae, except the tribe Pycnomerini (*Pycnomerus*, *Pycnomerodes*, *Dechomus*). In total 52 genera are recorded from the region. Diagnoses, descriptions and illustrations for each genus are provided. A key to the genera is given.

The following 13 new genera are described (type species in parentheses): *Acolophoides* (*A. storeyi* **sp. nov.**); *Acostonotus* (*A. squamosus* **sp. nov.**); *Bulasconotus* (*B. solomon* **sp. nov.**); *Cicablabus* (*C. micros* **sp. nov.**); *Notocoxelus* (*Coxelus helmsi* Reitter, 1880); *Epistranodes* (*Epistranus tibialis* Carter and Zeck, 1937); *Faecula* (*F. cristata* **sp. nov.**); *Hybonotus* (*H. fasciatus* **sp. nov.**); *Lascobitoma* (*L. weiri* **sp. nov.**); *Lobomesa* (*Bitoma parva* Blackburn, 1888); *Tarphiablabus* (*T. watti* **sp. nov.**); *Tentablabus* (*T. fulvus* **sp. nov.**); *Todimopsis* (*T. kuscheli* **sp. nov.**).

New generic synonyms proposed are as follows (synonym first): *Symphysius* Broun, 1909 = *Ablabus* Broun, 1880; *Coniophaea* Pascoe, 1863b, *Phormesa* Pascoe, 1863a = *Bitoma* Herbst, 1793; *Vitiacus* Broun, 1893b = *Chorasus* Sharp, 1882; *Asprecodes* Nakane, 1990 = *Cerchanotus* Erichson, 1845; *Caanthus* Champion, 1894 = *Ciconissus* Broun, 1893a; *Mnionychus* Carter, 1926 = *Enhyppnon* Carter, 1919; *Gathocles* Broun, 1893b, *Protarphius* Broun, 1893a = *Heterargus* Sharp, 1886; *Sympanotus* Sharp, 1886 = *Namunaria* Reitter, 1882b; *Dryptops* Broun, 1882, *Sparactus* Erichson, 1845, *Recyntus* Broun, 1882, *Enarsus* Pascoe, 1866 = *Pristoderus* Hope, 1840; *Acosmetus* Broun, 1880 = *Syncalus* Sharp, 1876b; *Bupalala* Pascoe, 1863c, *Cicones* Curtis, 1827 = *Synchita* Hellwig, 1792.

The following new combinations are established, the generic name after parentheses referring to previous generic assignments: *Ablabus serratus* (Broun, 1909), *Symphysius*; *Bitoma lunaris* (Pascoe, 1863a), *Phormesa*; *Cerchanotus ogasawarensis* (Nakane, 1990), *Asprecodes*; *Ciconissus gibbicollis* (Champion, 1894), *Caanthus*; *Chorasus costatus* (Broun, 1893b), *Vitiacus*; *Enhyppnon horridus* (Carter, 1919), *Mnionychus*; *Epistranodes tibialis* (Carter and Zeck, 1937), *Epistranus*; *Heterargus nodosus* (Broun, 1893b), *Gathocles*; *H. ruficornis* (Broun, 1893a), *Protarphius*; *Lobomesa parva* (Blackburn, 1888), *Bitoma*; *L. caudata* (Carter and Zeck, 1937), *Phormesa*; *Notocoxelus helmsi* (Reitter, 1880), *Coxelus*; *Namunaria picta* (Sharp, 1885a), *Sympanotus*; *Pristoderus tuberculatus* (Broun, 1880), *Recyntus*; *P. dorsalis* (Broun, 1882), *Dryptops*; *P. interruptus* (Erichson, 1842), *Sparactus*; *P. bakewellii* (Pascoe, 1866), *Enarsus*; *Synagathis puteolata* (Carter and Zeck, 1937), *Bitoma*; *Synchita variegata* (Hellwig, 1792), *Cicones*; *S. pullata* (Pascoe, 1863c), *Bupalala*; *Syncalus oblongus* (Broun, 1880), *Acosmetus*.



**Key words.**— Coleoptera, Zopheridae, Colydiinae, Australo-Pacific, generic revision.