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AN AQUATIC WATER SCAVENGER BEETLE IN EARLY MIOCENE AMBER FROM THE DOMINICAN REPUBLIC (COLEOPTERA: HYDROPHILIDAE)

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Abstract.— We describe a fossil hydrophilid beetle *Anacaena paleodominica* **sp. nov.** from the Early Miocene amber of the Dominican Republic, which is the only definitive amber inclusion of the family Hydrophilidae documented. The species belongs to the Recent *Anacaena suturalis* species group known from the Nearctic, Neotropical, and Australian regions. The fossil demonstrates that representatives of the species group may already have been widespread and common by the Early Miocene, and indicates a possible Miocene/post-Miocene extinction of the aquatic insect fauna on the island of Hispaniola.

Key words.— Dominican amber, Coleoptera, Hydrophilidae, *Anacaena*, island, extinction.

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MORPHOLOGICALLY INTERMEDIATE FORM BETWEEN *ATHOUS HAEMORRHOIDALIS* AND *A. VITTATUS* (COLEOPTERA: ELATERIDAE): A CASE OF HYBRIDIZATION? A PRELIMINARY STUDY

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Abstract.— In the present preliminary study we report an investigation on taxonomic status of individuals displaying diagnostic traits of intermediate values between the morphologically typical forms of *Athous haemorrhoidalis* (Fabricius 1801) and *A. vittatus* (Gmelin 1790) species occurring sympatrically. The presence of the "intermediate form" invoked the hypothesis of interspecific hybridization between *A. haemorrhoidalis* and *A. vittatus* species. An alternative explanation is that the "intermediate form" comprises individuals that are morphological variants of either of the species, without interspecific gene flow. We used partial sequences of two mitochondrial genes coding for the cytochrome oxidase subunit I (*cox1*) and 16S ribosomal RNA (*rrnL*), respectively. Additionally, we examined the variability of five polymorphic allozyme loci: *6Pgd*, *Idh*, *Mdh*, *Pgm* and *Gpi*. Altogether, 28 *A. haemorrhoidalis*, 7 *A. vittatus* and 8 "intermediate form" individuals were included into the study. Phylogenetic analyses produced the trees of a consistent topology with high statistical support regardless of the method used. The specimens signified as the "intermediate form" constituted a monophyletic group with individuals of *A. vittatus* species. Empirical data confirmed that the reproductive isolation between the species studied is complete. No haplotype was shared between *A. haemorrhoidalis* and *A. vittatus* in sympatry. Similar results were obtained using the analysis of allozyme data. Especially at *Idh* and *6Pgd* loci, alleles characteristic for *A. vittatus* and the "intermediate form" were not found in *A. haemorrhoidalis*, despite the larger sample examined. This suggests that the "intermediate form" is a phenotypic variant of *A. vittatus* without the signature of introgression.

Key words.— click beetles, genetic diversity, *Athous haemorrhoidalis*, *Athous vittatus*, mtDNA, COI, 16S rRNA, allozymes, morphological form

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LYCOCERUS STRICTIPENNIS SP. NOV. FROM YUNNAN, CHINA, THE SECOND SPECIES IN THE *MICHIAKII* SPECIES-GROUP OF *LYCOCERUS* GORHAM (COLEOPTERA: CANTHARIDAE)

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Abstract.— A second species of *michiakii* species-group of *Lycocerus* Gorham is described, *L. strictipennis* **sp. nov.** (CHINA, Yunnan), and provided with illustrations of aedeagus. *L. michiakii* Okushima et Brancucci, 2008 is recorded from China for the first time. Habitus photos of both species are presented.

Key words.— Coleoptera, Cantharidae, *Lycocerus*, new species, new record, China.

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A NEW SPECIES OF *ATROCRATES* KOCH, 1956 FROM SOUTH AFRICA (COLEOPTERA: TENEBRIONIDAE: PLATYNOTINA)

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Abstract.– A new species of tigonopoid Platynotina (*Atrocrates coconatae* **sp. nov.**) is described, diagnosed and illustrated. An update for the key of the genus *Atrocrates* is proposed.

Key words.– Entomology, new species, Tenebrionidae, Platynotina, *Atrocrates*, South Africa, ovoviviparity.

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NEW STATUS OF THE GENUS *ECTATEUS* KOCH, 1956 WITH TAXONOMIC NOTES ON THE *ECTATEUS* GENERIC GROUP (COLEOPTERA: TENEBRIONIDAE: PLATYNOTINA)

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Abstract.— Basing on the newly described (*Ectateus ursynowiensis* Kamiński sp. nov.) and the type species a new taxonomical hypothesis of the genus *Ectateus* is proposed. Due to the rules of the International Code of Zoological Nomenclature following changes are made: designation of the lectotype for *E. modestus* (Fairmaire, 1887) and replacement name for the genus *Cosmogaster* Koch, 1956.

Key words.— Entomology, taxonomy, new species, nomen novum, Tenebrionidae, *Cosmogaster*, *Ectateus*.

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REVISION OF THE GENUS *RODATUS* MULSANT, 1850 (COLEOPTERA: COCCINELLIDAE: COCCIDULINI)

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Abstract.— The species of *Rodatus* Mulsant are revised and illustrated. The following new synonyms are proposed: *Rodatus bakewellii* Crotch, 1874 [= *Rodatus australis* (Blackburn, 1889); *Rodatus depressus* Weise, 1895; *Rhizobius subaustralis* Blackburn, 1895]; *Rodatus boucardi* Crotch, 1874 [= *Rodatus major* (Blackburn, 1889); *Rodatus crotchi* (Blackburn, 1895)]. The lectotypes are designated for: *Rhizobius australis* Blackburn, *Rhizobius crotchi* Blackburn, *Rhizobius discolor* var.? *proprius* Blackburn, *Rhizobius major* Blackburn, *Rhizobius nigronotatus* Blackburn, *Rhizobius ornatipennis* Blackburn, *Rhizobius subaustralis* Blackburn. The following new species are described: *Rodatus tasmanicus*, *R. marginalis*, *R. chaetonotus*. The species of *Rodatus* are diagnosed and keyed. Nomenclatural history and distribution are provided for each species.

Key words.— Entomology, taxonomy, review, Cucujoidea, *Rodatus*, new species.

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A NEW SPECIES OF *HENOSEPILACHNA* LI (COLEOPTERA: COCCINELLIDAE: EPILACHNINI) FROM NEW GUINEA

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Abstract.— *Henosepilachna niaki*, **sp. nov.** from New Guinea is described and illustrated. Status of *Henosepilachna* Li, 1961 as a valid genus within the tribe Epilachnini is discussed.

Key words.— Entomology, taxonomy, new species, Cucujoidea, *Henosepilachna*, *Epilachna*, New Guinea.

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DESCRIPTION OF THE LARVA OF *QUAESTUS* (*QUAESTICULUS*) *PACHECOI* (BOLIVAR, 1915) (COLEOPTERA: LEIODIDAE: CHOLEVINAE)

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Abstract.— Two larval instars of *Quaestus* (*Quaesticulus*) *pachecoi* (Bolivar, 1915) are described and illustrated for the first time. Chaetotaxy, morphology and measurements indicate that the *Q.* (*Q.*) *pachecoi* has a classic type of development with two instars only and larvae belong to a classic type according to the Deleurance-Glaçon classification.

Key words.— Leiodidae, Cholevinae, Leptodirini, *Quaestus* (*Quaesticulus*) *pachecoi*, cave beetles, larva, morphology, chaetotaxy, classic type of larvae, classic type of development, glands, Iberian Peninsula.

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REVISIONAL STUDY ON THE GENUS *MIMASTRA* (COLEOPTERA: CHRYSOMELIDAE: GALERUCINAE). PART 4

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Abstract.— Species of the genus *Mimastra* Baly, 1865 with unmodified first protarsomere in male and black or metallic bands on elytra are reviewed and keyed. Four new species are described as new to science: *M. hsuehleeae* **sp. nov.** (Taiwan), *M. laotica* **sp. nov.** (Laos), *M. fouqueorum* **sp. nov.** (Thailand) and *M. schneideri* **sp. nov.** (Thailand). *Mimastra modesta* Fairmaire, 1889, *M. birmanica* Bryant, 1954 and *M. tenuelimbata* Lopatin, 2004 are redescribed. *Mimastra grahami* Gressitt Kimoto, 1963 is resurrected from synonymy with *M. malvi* Chen, 1942. The status of *Mimastra kremitovskyi* Bezděk, 2009 is discussed. Colour photos of habitus, drawings of genitalia and identification key are presented.

Key words.— Taxonomy, new species, Coleoptera, Chrysomelidae, Galerucinae, *Mimastra*, Oriental Region, Palaearctic Region, key.

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AUSTRALODON, A REMARKABLE NEW GENUS OF AUSTRALIAN LONGHORNED BEETLE (COLEOPTERA: CERAMBYCIDAE: CERAMBYCINAE)

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Abstract.— *Australodon* **gen. nov.** is described for *A. nearnsi* **sp. nov.** from subtropical rainforests of the southern Queensland and northern New South Wales in Australia. *Australodon* belongs in Cerambycinae but it cannot be placed in any recognized tribe based on adult morphology; it is considered a genus *incertae sedis*, awaiting further research on higher classification of Cerambycinae. The males of *Australodon* have massive saber-tooth-like mandibles not frequent in other Cerambycinae members.

Key words.— Longhorned beetles, taxonomy, new genus, Australia, Cerambycidae, subtropical rainforest, Chrysomeloidea, sexual dimorphism.

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GEOGRAPHICAL VARIATION IN WING PATTERN IN *PHENGARIS* (=*MACULINEA*) *ARION* (L.) (LEPIDOPTERA: LYCAENIDAE): SUBSPECIFIC DIFFERENTIATION OR CLINAL ADAPTATION?

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Abstract.— Socially parasitic and globally threatened *Phengaris* (=*Maculinea*) *arion* (L.) is one of the most intensively investigated insect species in Europe. Although current studies focus on ecology and genetics, the butterfly has also attracted attention because of its morphology. An extremely variable black pattern on the blue background of the wing upperside has resulted in the description of many different forms or even subspecies. We studied the variation of 148 individuals from five regional populations at a latitudinal gradient in Poland: two north-eastern populations, one middle-eastern populations and two southern populations. A proportion of the area covered with marginal strips and spots was measured, and the presence/absence of particular elements was also analyzed. For all except one, the most northern region, we found significant sexual dimorphism, with females being darker than males. Within sexes, the melanization level was higher in the north-east than in the south, and the mid – eastern region showed intermediate characteristics. Differences in colouration overlapped with variation in host ant use, but neither feature corresponded with the available genetic data and therefore clinal variation is a more likely explanation for the observed pattern. Melanization level may be an adaptation to climatic conditions, but it remains unclear which strategy of dorsal basking is applied by *P. arion*.

Key words.— Basking, Large Blue butterfly, melanization, sexual dimorphism, thermoregulation.

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LARVAL MORPHOLOGY AND CHAETOTAXY OF THE BRACHYPTEROUS WINTER GEOMETRID MOTHS FROM POLAND. PART I – *APOCHEIMA* HBN., *PHIGALIA* DUP. AND *LYCIA* HBN. (LEPIDOPTERA: GEOMETRIDAE: ENNOMINAE)

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Abstract.— In this work we describe morphology and chaetotaxy of the first and last instars of three species of two genera (*Apocheima* Hübner and *Lycia* Hübner) of brachypterous moths which occur in Poland. Moreover, we discuss morphology and chaetotaxy of the last instar larva of *Phigalia pilosaria* (Denis & Schiffermüller, 1775). Head capsule and mouthparts are illustrated and described with the nomenclature of particular setae and pores. Chaetotaxy of thoracic legs and prolegs is provided. The shape and setal arrangement of anal plate are illustrated separately.

Key words.— Chaetotaxy, larval morphology, winter moths, brachyptery, Geometridae, Ennominae, *Apocheima*, *Phigalia*, *Lycia*.

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THE GENUS *CAENOPHANES* FOERSTER, 1862 (HYMENOPTERA: BRACONIDAE: DORYCTINAE) IN THE WESTERN PALAEARCTIC

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Abstract.— The Western Palaearctic species of the genus *Caenophanes* Foerster are reviewed. A new species from the Canary Islands, *C. lapalmaensis* **sp. nov.**, is described. The name *C. rugosifrons* (Picard) is restored from synonymy (**stat. resurr.**). The redescriptions of *C. incompletus* (Ratzeburg) and *C. rugosifrons* are given. A key to the Western Palaearctic species of *Caenophanes* is suggested.

Key words.— Hymenoptera, Doryctinae, *Caenophanes*, Western Palaearctic region, new species, correct distribution, key to species.

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NEW CHALCIDIDAE (HYMENOPTERA: CHALCIDOIDEA) OF ECONOMIC IMPORTANCE FROM IRAN

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Abstract.— Three Chalcididae, namely *Brachymeria ceratoniae* Delvare **sp. nov.**, *Proconura persica* **sp. nov.** and *Psilochalcis ceratoniae* Delvare **sp. nov.**, are described from Iran. They were all reared from the carob moth *Apomyelois ceratoniae* (Lepidoptera: Pyralidae), the main pest of *Ceratonia siliqua*. *Invreia subita* Nikol'skaya, 1960 is formally transferred to the genus Psilochalcis. A lectotype is designated for *Brachymeria confalonierii* Masi, 1929.

Key words.— Hymenoptera, Chalcididae, *Brachymeria*, *Psilochalcis*, *Proconura*, new species, Iran, *Apomyelois ceratoniae*, Pyralidae

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PHYTODIETUS (*WEISIA*) *PEARLUS* SP. NOV. FROM SOUTH AFRICA (HYMENOPTERA: ICHNEUMONIDAE)

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Abstract.— A new species of *Phytodietus* Gravenhorst, 1829, *Ph.* (*Weisia*) *pearlus* **sp. nov.** from the Republic of South Africa is described and compared with congeneric Afrotropical species.

Key words.— Tryphoninae, *Phytodietus*, *Weisia*, Afrotropical region, new species.

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FIRST RECORD OF THE ANT GENUS *STRONGYLOGNATHUS* MAYR (HYMENOPTERA: FORMICIDAE) FROM AFGHANISTAN, WITH DESCRIPTION OF A NEW SPECIES

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Abstract.— The socially-parasitic ant genus *Strongylognathus* is reported for Afghanistan for the first time, and a new species, *S. kabakovi*, is described based on the single queen. It belongs to the *huberi* species-group and is characterized by the small size. It differs from the latter species by the distinctly concave occipital margin, by the fines body sculpture, and by the less developed standing pilosity on the body.

Key words.— ants, Formicidae, taxonomy, *Strongylognathus*, new species, Afghanistan.

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DESCRIPTIONS OF TWO NEW SPECIES OF THE FAMILY ORIBOTRITIIDAE (ACARI: ORIBATIDA: EUPHTHIRACAROIDEA)

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Abstract.— Two new species of the family Oribotritiidae, *Mesotritia solhoyi* **sp. nov.** from Tibet, China and *Oribotritia krivolutskyi* **sp. nov.** from Azerbaijan, are described and illustrated. *Mesotritia solhoyi* is distinguished from the related species by the presence of one pair of anal setae, three pairs of adanal setae, and 8–10 pairs of long genital setae; weakly fusiform head of sensilli; rostral and lamellar setae situated at the same level. *Oribotritia krivolutskyi* is similar to *O. submolesta*, but differs by different number of lateral carinae; much longer aggenital setae; longer sensilli, interlamellar and lamellar setae; shorter notogastral setae; setae ps_2 and ps_3 thick and rigid; setae ad_2 placed more close to ad_3 than to setae ad_1; slightly different shape of sensilli.

Key words.— Oribatid mite, Oribotritiidae, *Mesotritia*, *Oribotritia*, new species, Tibet, China, Azerbaijan.

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MORPHOLOGY OF JUVENILE INSTARS OF *NEOLIODES TERRESTRIS* (WALLWORK, 1963) AND *N. IONICUS* SELLNICK, 1931 (ACARI: ORIBATIDA: NEOLIODIDAE)

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Abstract.— The morphology of juvenile instars of the oribatid mites *Neoliodes terrestris* and *N. ionicus* (Neoliodidae) is described and illustrated. The juveniles of these two species are compared to those of other *Neoliodes* species. New diagnoses of the juvenile instars of Neoliodidae and *Neoliodes* are given. Identification keys to larvae and nymphs of Neoliodidae genera are presented.

Key words.— oribatid mites, Neoliodidae, *Neoliodes terrestris*, *Neoliodes ionicus*, morphology, juvenile instars.