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***Papiliolebias hatinne*, a new annual fish species (Cyprinodontiformes: Rivulidae) from Salta, Argentina**

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***Papiliolebias hatinne*, a new annual-fish species (Cyprinodontiformes: Rivulidae) from Salta, Argentina.** - *Papiliolebias hatinne* sp. n. is described from a temporary pond, 5 km north of Embarcación, in the río Bermejo basin, Province of Salta, Argentina. *Papiliolebias hatinne* sp. n. is distinguished from the only congener, *P. bitteri*, from the río Paraguay basin, by a combination of characters: 26-28 vertebrae, with 8-10 being precaudal; second proximal radial of anal fin located between vertebrae 9 and 10 or 10 and 11; 1-2 vomerine teeth; an elongation of jaw suspensorium; first epibranchial somewhat triangular; 7-8 pelvic-fin rays; 12-13 pectoral-fin rays; 20-23 caudal-fin rays; males with anal fin turquoise blue, dorsal and caudal fins bluish, pelvic fin blue, and humeral spot metallic bluish green; females without dark dots on flanks. The chromosome formula is  $2n=28$ , the  $FN=36$ , integrated by two pairs of metacentric, two pairs of submetacentric and ten pairs of subtelocentric chromosomes.

**Keywords:** new *Papiliolebias* - Bermejo basin - karyogram of *Papiliolebias hatinne*.

***Topobates helveticus* sp. n. and some other remarkable moss mites from Switzerland (Acari: Oribatida).**

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***Topobates helveticus* sp. n. and some other remarkable moss mites from Switzerland (Acari: Oribatida).** - The description of a new *Topobates* species, *T. helveticus*, and an overview of the genus *Topobates* Grandjean, 1958 with a key to the European *Topobates* species, are given. Taxonomical and morphological notes on three further rare or little known oribatids (*Miracarus similis* Subías & Iturrondobeitia, 1978, *Lamellocephus personatus* (Berlese, 1910), with their relationships, and *Jugatala angulata* (C. L. Koch, 1839) from Switzerland are added. 19 figures are presented.

**Keywords:** Mites - new and rare species - description - redescription - identification keys.

## **Oribatids from Madagascar IV (Acari: Oribatida)**

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**Oribatids from Madagascar IV (Acari: Oribatida).** - Oribatida material collected in Madagascar by a scientist of the Muséum d'histoire naturelle, Genève was studied. Twenty species are listed, six of them are new to science: *Mesoplophora (P.) madegassica*, *Masthermannia hauseri*, *Caveremulus foliaceus*, *C. salicinus*, *Ambrobates translamellatus* and *Vilhenabates ambohitra*. The new genus *Ambrobates* gen. n. is established in the family Scheloribatidae. Taxonomical notes on rare or little known species and a key for identification of *Caveremulus* species are given.

**Keywords:** New taxa - list of identified species - taxonomical and zoogeographical notes - keyfin - Malagasy Republic.

## **Species of *Hybos* Meigen from Ningxia, Palaearctic China (Diptera, Hybotidae)**

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**Species of *Hybos* Meigen from Ningxia, Palaearctic China (Diptera, Hybotidae).** - Only one species of the genus *Hybos* was known to occur in Ningxia of Northwest China, Palaearctic Region. Here five species are reported. One species, *Hybos liupanshanus* sp. nov., is described as new to science. A key to the five species of the genus from Ningxia is presented for the first time.

**Keywords:** Diptera - Hybotidae - *Hybos* - new species - Ningxia.

## **Variations in sex ratio studied in a single breeding population of an endangered salamander: a long-term study**

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**Variations in sex ratio studied in a single breeding population of an endangered salamander: a long-term study.** - A small population of a rare, xeric-inhabiting salamander *Salamandra infraimmaculata* Martens, 1885, was studied throughout 25 years at the breeding ponds on Mt. Carmel, Israel. The breeding period extended between October and January but

most females visited the ponds during November and December. The number of salamanders fluctuated during the study period not showing any particular pattern. The sex ratio was male-biased during most of this period while female numbers dropped during the last few years. Only such long-term observations can illustrate this point in perspective of time leading to the conclusion that the observed drop in female numbers may eventually effect a decline in the species' presence in this fringe habitat. The subject is discussed and reviewed and a general comparison with variation in sex ratio in other urodele species is presented.

**Keyword:** Amphibian decline - Endangered species - Long-term study - *Salamandra* - Sex ratio.

### **The linyphiid spiders of Iran (Arachnida, Araneae, Linyphiidae)**

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**The linyphiid spiders of Iran (Arachnida, Araneae, Linyphiidae).** - A checklist of linyphiids from Iran amounting to 67 species is given, based mostly on the extensive collections of A. Senglet and on available literature. Three species are described as new: *Bolyphantes elburzensis* sp. n., *Erigonoplus zagros* sp. n. and *Sengletus latus* sp. n. Twenty-six species are reported from Iran for the first time. The previously unknown male of *Megalephyphantes kuhitangensis* (Tanasevitch, 1989), as well as the females of *Araeoncus mitriformis* Tanasevitch, 2008, *Archaraeoncus alticola* Tanasevitch, 2008, and *Tenuiphantes perseus* (Helsdingen, 1977) are described. Two new synonyms and a new combination are proposed: *Erigonoplus ayyildizi* Tanasevitch, Topçu & Demir, 2005 syn. n. and *E. galophilus* Gnelitsa, 2007 syn. n. = *E. spinifemoralis* Dimitrov, 2003; *Lepthyphantes sbordonii* Brignoli, 1970 = *Palliduphantes sbordonii* (Brignoli, 1970) comb. n. All records of *Tenuiphantes mengei* (Kulczyński, 1887) in Iran and the East Caucasus actually can be attributed to *Tenuiphantes perseus* (Helsdingen, 1977). Synonymy of *Collinsia* O.P.-Cambridge, 1913 under *Halorates* Hull, 1911 is confirmed. A distribution pattern is indicated for each species. The localities of some species in Iran are mapped. The Iranian fauna is characterised by a high percentage of widespread species (50%), and a small percentage of European-Ancient Mediterranean (14%) and Eastern Ancient Mediterranean (7%) elements; 15% of the species are potentially Iranian endemics. The Caucasian-Iranian relations are weak and represented by five species. The Central Asian-Iranian relations are represented by three species. The relations between the Iranian and the Anatolian faunas are based on widespread species only.

**Keywords:** New species - new synonymies - new combination - new records - Iran.

## Notes on linyphiid spiders from Afghanistan (Araneae, Linyphiidae)

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**Notes on linyphiid spiders from Afghanistan (Araneae, Linyphiidae).** - A small collection of linyphiid spiders from Afghanistan contains eleven species, ten of which are new to the Afghan fauna, and one species, i.e. *Megalephyphantes kandahar* sp. n., is new to science. A new combination is established: *Lepthyphantes afghanus* Denis, 1958 = *Mughiphantes afghanus* (Denis, 1958) comb. n. All records of *Arachosinella strepens* Denis, 1958 from Kirghizia, Kazakhstan and Mongolia actually refer to *A. oeroegensis* Wunderlich, 1995. The distribution of *A. strepens* is restricted to Afghanistan.

**Keywords:** Taxonomy - new species - new combination - new records.

## Nouvelles données sur la distribution géographique en Suisse du Mulot alpestre (*Apodemus alpicola* Heinrich, 1952)

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**New data on the occurrence of the Alpine mouse (*Apodemus alpicola* Heinrich, 1952) in Switzerland.** - To better understand the distribution of the recently discovered Alpine mouse in the Swiss Alps, we revised 4144 specimens of *Apodemus* spp. housed in the collections of the Natural History Museum of Geneva. Because the morphological distinction of *A. alpicola* from the other two widespread species (*A. sylvaticus* and *A. flavicollis*) is difficult, we first evaluated the validity of a simple ratio of two linear measurements (length of diastem over condylobasal length, expressed in percent) on a subset of 150 reference specimens (50 of each species) previously identified by molecular characters or by a more complex discriminant function (Reutter *et al.*, 2002). This simple ratio was always smaller than 31% in both *A. sylvaticus* and *A. flavicollis*, and larger in all measured *A. alpicola*. The diagnostic absence of a small lateral tubercle on the second upper molar was also highly correlated with values larger than 31% in this ratio, further validating this simple way of identifying skulls of Alpine mice. Using this method, we subsequently identified 143 *A. alpicola* from 28 locations in the Swiss Alps. Most of them were sampled in the oriental stronghold of Alpine mice (province of Graubünden), but some specimens were also sampled to the west, in the provinces of Ticino, Valais, Vaud and Bern. The precise western limits of the Alpine mouse and its ecological relationships with other, more widespread species needs to be further studied.

**Keywords:** Morphological discrimination - identification - Rodentia - molars - Alps - distribution.

***Magapia*, nom. nov., replacing *Laingia* Bouillon, 1978, and Magapiidae, nom. nov., replacing Laingiidae Bouillon, 1978 [Cnidaria, Hydrozoa]**

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***Magapia*, nom. nov., replacing *Laingia* Bouillon, 1978, and Magapiidae, nom. nov., replacing Laingiidae Bouillon, 1978 [Cnidaria, Hydrozoa].** - The genus name *Laingia* Bouillon 1978 is an invalid junior homonym of *Laingia* Theobald, 1922 (Insecta). *Magapia*, nom. nov., is proposed as a new replacement name for *Laingia* Bouillon, 1978b, and the invalid family-group name Laingiidae Bouillon, 1978b based on it is replaced by Magapiidae, nom. nov.

**Keywords:** Hydrozoa - *Laingia* - homonymy - new replacement name - Magapia.

**The European athecate hydroids and their medusae (Hydrozoa, Cnidaria): Filifera Part 5**

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**The European athecate hydroids and their medusae (Hydrozoa, Cnidaria): Filifera Part 5.** - This study reviews all European hydroids belonging to the filiferan families Bythotiaridae, Proboscidactylidae, Magapiidae, Ptilocodiidae, Eucodoniidae, Russelliidae, Niobiidae, Protiaridae, and Trichydridae. *Protiara tetranema* (Péron & Lesueur, 1810) is considered as an unrecognizable species. The gonozooids of *Halitiara formosa* and *Trichydra pudica* are described, both have reduced blastostyles in a gonotheca-like casing.

**Keywords:** Cnidaria - marine - Hydrozoa - revision - taxonomy - north-eastern Atlantic - Mediterranean.

**The *Hilara* species (Diptera, Empididae) of Switzerland, with respect to the fauna of the Alps and other central European mountains**

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**The *Hilara* species (Diptera, Empididae) of Switzerland, with respect to the fauna of the Alps and other central European mountains.** - Within the fauna of the Alpine region 118 *Hilara* species are recognized including some species which are not yet known from the region but may be expected. The species are keyed, and full distributional data are given for the Alps. Eight new species are described: *Hilara leukensis* sp. n., *H. luteihalterata* sp. n., *H. planti* sp. n. and *H. crossleyi* sp. n. from the Swiss Alps, *H. brevistriata* sp. n. from the Swiss and

Austrian Alps, *H. parvimaior* sp. n. from the Swiss and Italian Alps, *H. sirbitzmatrona* sp. n. from the Austrian Alps, and *H. polleti* sp. n. from the Bulgarian Rhodope Mts. Several further species are fully redescribed and illustrated for the first time (*H. cinereomicans* Strobl, *H. sartor* Becker, *H. tiefii* Strobl, *H. tanychira* Strobl, *H. dimidiata* Strobl, *H. simplicipes* Strobl, *H. calinota* Collin, *H. pruinosa* Wiedemann in Meigen, *H. hystrix* Strobl, *H. pectinipes* Strobl), and the females of *H. helvetica* Chvála and *H. zermattensis* Chvála are described here for the first time. A lectotype is designated for *H. pilosopectinata* Strobl. The following new synonymies are proposed: *Hilara maior* Strobl, 1910 (= *Hilara tatra* Niesiolowski, 1991) and *Hilara tyrolensis* Strobl, 1892 (= *H. miriptera* Straka, 1976). The synonymy of *Hilara longesetosa* Strobl, 1910 with *H. pilosopectinata* Strobl, 1892 is explained. *Hilara longicornis* Strobl, 1894, described and still known only from the Hungarian lowlands, is fully redescribed and its correct classification within the genus *Hilara* is discussed in the section "additional species". The same applies to *Hilara flavocoxa* Straka, 1976, a species known only from a single locality in highlands of central Slovakia.

**Keywords:** Diptera - Empididae - *Hilara* - Central Europe - faunistics - taxonomy - key - new species - new synonymies.