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## On homonymies in *Bembidion* LATREILLE, 1802 (Coleoptera, Carabidae)

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Seven species or subspecies of *Bembidion* are renamed because of homonymy. Following replacement names are given: *Bembidion* (*Neja*) *torosum* nom. nov. for *Bembidion* (*Neja*) *anatolicum* JEDLIČKA, 1968; *Bembidion* (*Metallina*) *ovoideum* nom. nov. for *Metallina colasi* MORVAN, 1971; *Bembidion* (*Peryphanes*) *farsense* nom. nov. for *Peryphus depressus* MORVAN, 1972; *Bembidion* (*Ocydromus*) *siculum durudense* nom. nov. for *Peryphus* (*Ocydromus*) *zagrosensis* MORVAN, 1973; *Bembidion* (*Testedium*) *bipunctatum alii* nom. nov. for *Peryphus* (*Testedium*) *bipunctatum zagrosensis* MORVAN, 1973; *Bembidion* (*Testediolum*) *tiziano* nom. nov. for *Testediolum zagrosensis* MORVAN, 1973; *Bembidion* (*Testediolum*) *armeniicum damavandense* nom. nov. for *Peryphidium davatchii* MORVAN, 1971.

Keywords: Coleoptera, Carabidae, *Bembidion*, systematics, homonyms.

### INTRODUCTION

The genus *Bembidion* LATREILLE is distributed world-wide except for the Neotropical region. It includes a large number of species with more than a thousand valid species and subspecies known in the Palearctic region alone. Several subgenera are currently recognized and they are believed to improve the taxonomic treatment of the group.

JEANNEL (1941) proposed seven “phyletic lineages” for the ancient *Bembidion* and closely related taxa, each being a group of suprageneric rank (*Ocys*, *Cillenius*, *Notaphus*, *Bembidion*, *Peryphus*, *Odontium*, *Asaphidion*), and he upgraded 18 of the previous subgenera to genus level. NETOLITZKY (1942, 1943) agreed only with two of JEANNEL's lineages (*Notaphus*, *Peryphus*). The characters used by JEANNEL include numerous homoplasies and therefore can not indicate relationships. Nevertheless, JEANNEL's concept was followed by many authors (e.g. SCHULER, 1961; JEANNE, 1972; PERRAULT, 1981; VIGNA TAGLIANTI, 1993; BONAVITA & VIGNA TAGLIANTI, 1993; ZABALLOS & JEANNE, 1994; MORITA, 1996).

Many specialists on *Bembidion* such as NETOLITZKY, LINDROTH, DE MONTE, FASSATI, MADDISON, MÜLLER-MOTZFELD and BELOUSOV follow the traditional concept of a single large genus. Also in the latest studies *Bembidion* is handled as one genus (BOUSQUET & LAROCHELLE, 1993; TOLEDANO, 1998; LORENZ, 1998a, b), or even includes *Hoquedela* MÜLLER-MOTZFELD, 1988, downgraded to a subgenus of *Bembidion* (TOLEDANO & SCIAKY, 1998). HURKA (1996) refused the upgrading of subgeneric taxa in absence of phylogeny.

We face two opposite tendencies in the taxonomic treatment of *Bembidion*, as in that of some other groups of carabids. “Splitters” raise the ancient subgenera to genera and tend to provide for each supposed species group a separate name. “Traditionalists” rather keep the previous rank of taxa, unless they feel obliged to undertake a taxonomic action because of recognized paraphyly, polyphyly or asymmetry

in the classification of the higher taxon. Splitters place more importance on differences and less on phylogeny. It results an inflation of new names making classification less comprehensible. An additional problem is that it is a potential source of homonymies.

While working on a catalogue of Palearctic species of *Bembidion*, in which the traditional concept is followed, seven homonymies were found. Because of the great number of *Bembidion* species a phylogenetic analysis is unlikely to appear in the near future, we propose the replacement names below.

#### REPLACEMENT NAMES

##### 1. *The homonyms of the name anatolicum*

The name *anatolicum* has been used twice. KORGE's (1964) subspecific name is the older and valid homonym.

*Bembidion (Pseudolimnaeum) lederi anatolicum* KORGE, 1964; valid name.

*Bembidion (Neja) torosum* nom. nov.

for *Bembidion (Neja) anatolicum* JEDLIČKA, 1968, preoccupied by *Bembidion (Pseudolimnaeum) lederi anatolicum* KORGE, 1964.

Etymology: The new name refers to the locus typicus, the Toros Mountains in South-western Turkey.

We do not agree with LORENZ (1998a) who places this Turkish species in synonymy of the Western Mediterranean species *B. ambiguum* DEJEAN, 1831. According to MÜLLER-MOTZFELD (pers. comm.) it is possibly a synonym of the Eastern Mediterranean *B. sporadicum* SAHLBERG, 1903. However, no revision of the subgenus *Neja* exists and therefore a replacement name for JEDLIČKA's homonym is given.

##### 2. *The homonyms of the name colasi*

It was SCHULER (1961) who for the first time used the specific name *colasi* in *Peryphus (Testediolum)*. MORVAN (1971) gave the same name to another species in *Metallina*, despite the close relationship of the two "genera". Regarding *Bembidion* as a genus, the younger name of MORVAN has to be replaced.

*Bembidion (Nepha) colasi* (SCHULER, 1961); valid name.

Described as *Peryphus (Testediolum) colasi* SCHULER, 1961.

*Bembidion (Metallina) ovoideum* nom. nov.

for *Metallina colasi* MORVAN, 1971, preoccupied by *Bembidion (Testediolum) colasi* SCHULER, 1961.

Etymology: The new name refers to the oviform elytra.

##### 3. *The homonyms of the name depressum*

The older homonym *depressum* MÉNÉTRIÉS, 1832 remains valid. Regarding *Bembidion* as a genus, the younger homonym *Peryphus depressus* MORVAN, 1972 is a junior secondary homonym and has to be replaced.

*Bembidion (Bembidionetolitzkya) depressum* MÉNÉTRIÉS, 1832; valid name.

Described as *Bembidium depressum* MÉNÉTRIÉS, 1832.

*Bembidion (Peryphanes) farsense* nom. nov.

for *Bembidion (Peryphanes) depressum* (MORVAN, 1972) sensu LORENZ (1998a), described as *Peryphus depressus*, preoccupied by *Bembidion (Bembidionetolitzkya) depressum* MÉNÉTRIÉS, 1832.

Etymology: The new name refers to the Iranian province Fars.

#### 4. The homonyms of the name *zagrosense*

MORVAN (1972, 1973) used the name *zagrosensis* – referring to the Iranian Zagros Mountains – five times for species and subspecies in *Emphanes*, *Peryphus (Ocydromus)*, *Peryphus (Testedium)*, *Peryphanes* and *Testediolum*. MÜLLER-MOTZFELD (1986) realised this multiple homonymy and fixed *Bembidion (Emphanes) zagrosense* MORVAN, 1972 as valid name. Also, VYSOKÝ (1986) pointed to the discrepancies in MORVAN's paper without proposing any solutions.

*Bembidion (Emphanes) zagrosense* (MORVAN, 1972); valid name.

Described as *Emphanes zagrosensis* MORVAN, 1972.

*Bembidion (Ocydromus) siculum durudense* nom. nov.

for *Bembidion (Ocydromus) siculum zagrosense* (MORVAN, 1973) sensu KRYZHANOVSKIJ *et al.* (1995), described as *Peryphus (Oxydromus)*<sup>1</sup> *zagrosensis* MORVAN, 1973.

Although MÜLLER-MOTZFELD (1986) realized that the name *Peryphus (Ocydromus) zagrosensis* MORVAN, 1973 is preoccupied by *Bembidion (Emphanes) zagrosense* MORVAN, 1972, he did not replace it. KRYZHANOVSKIJ *et al.* (1995) downgraded MORVAN's taxon to the subspecific level of *Bembidion (Ocydromus) siculum* without mentioning the homonymy and the preoccupation by *Bembidion (Emphanes) zagrosense* MORVAN, 1972.

Etymology: The new name refers to the locus typicus: Iran, Zagros Mountains, Durud.

*Bembidion (Testedium) bipunctatum alii* nom. nov.

for *Bembidion (Testedium) bipunctatum zagrosense* (MORVAN, 1973), described as *Peryphus (Testedium) bipunctatum zagrosensis* MORVAN, 1973.

MORVAN (1973) used the name *zagrosensis* twice in one paper within *Peryphus* for a new species *Peryphus (Ocydromus) zagrosensis* (see above) and for a subspecies of *Peryphus bipunctatum* constituting an objective primary homonym. Both names are preoccupied by *Bembidion (Emphanes) zagrosense* MORVAN, 1972.

Etymology: The new name refers to the oriental first name Ali.

*Bembidion (Testediolum) tizianoii* nom. nov.

for *Bembidion (Testediolum) zagrosense* (MORVAN, 1973), described as *Testediolum zagrosensis* MORVAN, 1973, preoccupied by *Bembidion (Emphanes) zagrosense* MORVAN, 1972.

<sup>1</sup> Spelling mistake of MORVAN.

MORVAN (1973) pointed to the relationship between *Testediolum zagrosensis* and *Testediolum turcicum* («proche de *T. turcicum* GEMMINGER & HAROLD, 1868<sup>2</sup>»). *Bembidion turcicum* belongs to the subgenus *Nepha* and not to *Testediolum* as MORVAN mentioned. Because of the lack of a systematic revision of the subgenera *Nepha* and *Testediolum*, we do not remove *Bembidion tiziano* from the subgenus *Testediolum*.

Etymology: The new name is dedicated to the Italian specialist on *Bembidion* Tiziano DE MONTE.

The homonymy of *Peryphanes zagrosensis* MORVAN, 1973 (also preoccupied by *Bembidion (Emphanes) zagrosense* MORVAN, 1972) was treated by MÜLLER-MOTZFELD (1986), who renamed the species as *Bembidion (Peryphanes) morvanianum*.

### 5. The homonyms of the name *davatchii*

In 1971 MORVAN described two species in different nominal genera with the identical name *davatchii*.

*Bembidion (Ocyturanes) culminicola davatchii* MORVAN, 1971 sensu KRYZHANOVSKIJ *et al.* (1995); valid name.

Described as *Bembidion (Peryphus) davatchii* MORVAN, 1971.

*Bembidion (Testediolum) armeniacum damavandense* nom. nov.

for *Peryphidium davatchii* MORVAN, 1971, preoccupied by *Bembidion (Ocyturanes) culminicola davatchii* MORVAN, 1971.

We follow KIRSCHENHOFER (1989) who downgrades *Peryphidium davatchii* to subspecies of *Bembidion (Testediolum) armeniacum* CHAUDOIR.

Etymology: The new name refers to the locus typicus: Iran, Elburz Mountains, Mount Damavand.

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### ZUSAMMENFASSUNG

Über Homonymien bei *Bembidion* LATREILLE, 1802 (Coleoptera, Carabidae). – Sieben Namen von Arten bzw. Unterarten der Gattung *Bembidion* sind aus Gründen von Homonymie zu ersetzen. Folgende Taxa werden umbenannt: *Bembidion (Neja) torosum* nom. nov. für *Bembidion (Neja) anatolicum* JEDLIČKA, 1968; *Bembidion (Metallina) ovoideum* nom. nov. für *Metallina colasi* MORVAN, 1971; *Bembidion (Peryphanes) farsense* nom. nov. für *Peryphus depressus* MORVAN, 1972; *Bembidion (Ocydromus) siculum durudense* nom. nov. für *Peryphus (Ocydromus) zagrosensis* MORVAN, 1973; *Bembidion (Testedium) bipunctatum alii* nom. nov. für *Peryphus (Testedium) bipunctatum zagrosensis* MORVAN, 1973; *Bembidion (Testediolum) tiziano* nom. nov. für *Testediolum zagrosensis* MORVAN, 1973; *Bembidion (Testediolum) armeniacum damavandense* nom. nov. für *Peryphidium davatchii* MORVAN, 1971.

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<sup>2</sup> Erroneously, the author in MORVAN (1973) is «H. DE GEMMINGER 1868».

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