**Cheiridium tetrophthalmum** Daday, a new synonym of *Larca lata* (Hansen) (Pseudoscorpiones, Larcidae)

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**Abstract:** *Cheiridium tetrophthalmum* Daday, 1889 is removed from the synonymy of *Geogarypus minor* (L. Koch, 1873), and treated as a junior synonym of *Larca lata* (Hansen, 1884). The distribution of *Larca lata* and *Geogarypus minor* is documented, and *L. lata* is recorded from Hungary for the first time.

**Key words:** Faunistics, *Geogarypus minor*, Hungary

The pseudoscorpion *Cheiridium tetrophthalmum* was described by *Daday* (1889) from an unspecified number of specimens collected by Dr Joh. Pável from the Hungarian town of Vadé within Somogy County ("Somogymegye"). Vadé, which is nowadays known as Vadépuszta, is a part of the settlement of Gamás (Dr L. Dányi, Hungarian Museum of Natural History, Budapest, in litt.). Therefore, the type locality of *C. tetrophthalmum* is here regarded as Vadépuszta, Gamás (46°37'N, 17°46'E), Somogy County, Hungary. Harvey (1991, 2009) inadvertently listed Vadé as occurring in Portugal.

The only other report of *C. tetrophthalmum* as a valid species was by *Daday* (1918) who listed it amongst the pseudoscorpion fauna of the Hungarian Empire which at the time spanned several modern day countries in south-eastern Europe. Beier (1932) treated *C. tetrophthalmum* as a junior synonym of *Geogarypus minor* (L. Koch, 1873), where it has remained ever since. *Geogarypus* was at the time included in Garypidae but has since been placed within Geogarypidae (Harvey 1986, 2009).

*Daday*’s (1889) description of *C. tetrophthalmum* is inadequate by modern standards but he was one of the few 19th century pseudoscorpion taxonomists who provided illustrations of some of the taxa he described. The original description was provided in Latin and Hungarian, with illustrations of the pedipalps, carapace, setae, pedipalpal trochanter and cheliceral galea. The type material cannot be located amongst the pseudoscorpions in the Hungarian Museum of Natural History, Budapest, even though material of other species described by Daday are lodged there (Dánya in litt.). Therefore, it seems that the type material of *C. tetrophthalmum* is either lost or cannot currently be identified amongst the collection.

*Cheiridium tetrophthalmum* is clearly not a member of the genus *Cheiridium* or even of the family Geirididae as currently defined. No cheiridid has two pairs of eyes, as all described species have a single pair of small eyes (e.g. *Beier* 1932, *Vitali-di Castri* 1962, *Beier* 1963a, *Benedit* 1978, *Dumitrescu & Orghidan* 1981, Mahnert 1982, Harvey 1992).

*Beier*’s (1932) decision to include *C. tetrophthalmum* within *G. minor* was undoubtedly based on the presence of four eyes and the strongly triangular carapace. At the time of the synonymy, *G. minor* was known from several southern European countries, so the synonymy was geographically acceptable. The drawings of *C. tetrophthalmum* by *Daday* (1889) do not, however, resemble *G. minor* or any other geogarypid. The pedipalpal segments of *G. minor* are relatively robust, e.g. femur 3.3-3.4x and patella 2.8x longer than broad (Beier 1932, 1963a), whereas the pedipalps of *C. tetrophthalmum* are more slender, e.g. femur 4.4x and patella 3.1x longer than broad (Daday 1889, calculated from fig. 10). Furthermore the shape of the chelae is totally different. The paraxial face of the chelal hand of *G. minor* and most other geogarypids is noticeably convex, the chelal fingers are slightly curved in dorsal view and are longer than the chelal hand (Beier 1932, 1963a). In *C. tetrophthalmum* the chelal hand is cylindrical with no trace of a paraxial convexity, the chelal fingers are less strongly curved and the fingers are noticeably shorter than the hand (Daday 1889).

It is clear that *C. tetrophthalmum* is not a synonym of *G. minor* or indeed a member of the Geogarypidae. The illustrations depict instead a species of the family Laridae which have all of the pedipalpal features noted above, as well as four eyes and a triangular carapace. The sole genus of Laridae reported from Europe is...
Larca which is known from five cave-dwelling species, L. bosselaersi Henderickx & Vets, 2002 from Crete, L. fortunata Zaragoza, 2005, L. hispanica Beier, 1939 and L. iucentina Zaragoza, 2005 from Spain, and L. italica Gardini, 1983 from Italy, and the epigean L. lata (Hansen, 1884). Larca lata is known from a variety of European locations, within the following countries: Austria, Bulgaria, Czech Republic, Denmark, Germany, Latvia, Netherlands, Poland, Romania, Slovakia, Sweden and United Kingdom (HARVEY 2009, CHRISTOPHORYOVÁ et al. 2011) (Fig. 1), and has been most recently redescribed by JUDSON & LEGG (1996), TOOREN (2001) and CHRISTOPHORYOVÁ et al. (2011). A population of an unidentified species of Larca has also been reported from a cave in southern France (LECLERC 1979; HEURTAULT 1986). The only other species of Larcidae are found in North America where five species of Archedlarca and four species of Larca have been described (HARVEY 2009).

Although the description of C. tetrophthalmum by DADAY (1889) lacks sufficient detail to ascertain its true identity, it is reasonable to assume that Cheridium tetrophthalmum is a synonym of Larca lata, as there is only one larcid species currently recognised in northern, central and eastern Europe. Accordingly, these two names are considered to be synonyms (new synonymy).

The material studied by DADAY (1889) represents the only specimens of L. lata thus far recorded from Hungary. The description of C. tetrophthalmum in 1889 represents the second published record of a larcid which is only predated by HANSEN’s (1884) description of Larca lata (as Garypus latus) from Denmark. The first North American larcid, L. granulata (Banks, 1891) was described two years later from New York (BANKS 1891).

The removal of C. tetrophthalmum from the synonymy of Geogarypus minor also removes G. minor from the Hungarian fauna. HARVEY (2009) reported G. minor from a variety of southern European and north African countries, but two entries appear to be incorrect. The record from Sudan is incorrect, and I cannot now find any records from that country. The specimens described as G. minor by TULLGREN (1907) from Gebelein, Egypt represent the only record of this species from Egypt. They are considerably larger than G. minor, for example, the pedipalpal femur of the Egyptian specimens is reported to be 0.74 (♂) and 0.77 (♀) mm long, whereas G. minor has a length of 0.60 mm (BEIER 1963a). Also, the pedipalpal chela shape is quite different with an evenly convex paraxial hand margin in the Egyptian specimens (TULLGREN 1907, fig. 2) and a more angular paraxial margin in G. minor (BEIER 1963a). Therefore, the specimens from Egypt are excluded from G. minor and this species is excluded from the Egyptian fauna. Tullgren’s description seems to better fit that of G. mirei Heurtault, 1970 from Chad or G. pulcher Beier, 1963 from the Middle East (BEIER 1963b, HEURTAULT 1970), but a more detailed scrutiny of the Egyptian specimens is required to ascertain their actual identity.
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The distribution of *G. minor* based on published records is shown in Fig. 2. It ranges from Madeira and the Canary Islands in the west to Turkey in the east, with Austria as the most northerly record. The sole Austrian record, from Dornbach near Vienna (BEIER 1929), was suggested by MAHNERT (2004) to be perhaps based on an introduced population that failed to survive, as no further Austrian specimens have been reported since the original collection. It is likely that some older literature records are based on misidentifications with other species of *Geogarypus*, in particular with *G. nigrimanus* (Simon, 1879) (G. Gardini and J. Zaragoza in litt.).

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