

On the occurrence of *Wyochernes* in Asia (Pseudoscorpionida: Chernetidae)

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Summary

Some pseudoscorpions from Magadan Province, Siberia, previously identified as *Allochernes asiaticus* (Redikorzev), are instead referable to the genus *Wyochernes* Hoff; they are conspecific with *W. arcticus* Muchmore from Yukon Territory, Canada. It is not entirely certain that the Siberian specimens are conspecific with the types of *Chelififer* (*Chelanops*) *asiaticus* Redikorzev from Tibet, and their proper name remains in question.

Gobichernes changaiensis Krumpál & Kiefer, from Mongolia, is also shown to belong in the genus *Wyochernes*, and the genus *Gobichernes* Krumpál & Kiefer, 1982 therefore becomes a junior synonym of *Wyochernes* Hoff, 1949.

Introduction

The genus *Wyochernes* was established by Hoff in 1949, with the new species *Wyochernes hutsoni* designated as type species. *W. hutsoni* is known only from the type collection at Libby Flats, Snowy Range, Medicine Bow National Forest, Albany County, Wyoming, USA. In 1990, I described a new species, *W. arcticus*, from Sheep Creek, British Mountains, Yukon Territory, Canada. Both Hoff and I recognised a strong resemblance of our species to *Allochernes asiaticus* (Redikorzev).

Chelififer (*Chelanops*) *asiaticus* was described by Redikorzev in 1922, on the basis of specimens from Tibet. Beier (1932) transferred the species to the genus *Allochernes*, giving an emended, though shorter, description. Subsequently, Schawaller (1986, 1989) reported specimens of *Allochernes asiaticus* from locations in central Asia from Kyrgyzstan in the west to Magadan Province, Siberia, in the east; he was able to maintain his specific assignment by comparison with 3 syntypes of *C. asiaticus*. Dr Schawaller kindly sent me several of the specimens collected in Magadan Province, Siberia, for study and comparison with *Wyochernes* species from America; these also prove to be representatives of *Wyochernes*.

In another context, I noticed the paper by Krumpál & Kiefer (1982), in which they described a new genus and species, *Gobichernes changaiensis*, from Mongolia. From the description given, it is obvious that this species also belongs in *Wyochernes*. Therefore, the following changes are necessary.

Genus *Wyochernes* Hoff, 1949

Wyochernes Hoff, 1949: 41; Harvey, 1991: 639; Muchmore, 1990: 389.
Gobichernes Krumpál & Kiefer, 1982: 6; Harvey, 1991: 578. NEW SYNONYMY.

Wyochernes changaiensis (Krumpál & Kiefer), new combination

Gobichernes changaiensis Krumpál & Kiefer, 1982: 6; Harvey, 1991: 578.

According to the written description and the figures, this species has all of the important characters of the genus *Wyochernes*. These include the distinctive spermathecae in the female (p. 8, fig. 12), heavily granulate carapace and palps (p. 6), carapace with 2 transverse furrows (p. 6), cheliceral flagellum of 3 setae (p. 8), shapes of palps and legs (figs. 1–3, 7–9), location of nodus ramosus at or just distad of trichobothrium *t* in movable chelal finger (p. 8, figs. 1, 2), number of accessory teeth reduced to 1 (or 2?) on fixed finger (p. 8, fig. 1), distribution of trichobothria on chela of male (p. 8, fig. 1), absence of tactile setae on tergite 11 and tarsus IV (p. 8, figs. 9, 10). The only differences seem to be the more clavate shapes of the setae (p. 6, fig. 10), and the unusual distribution of trichobothria on the movable finger of the single available female (p. 6, 8, fig. 2); the former is probably attributable to specific variation within the genus, while the latter may be a case of sexual dimorphism, as suggested by Krumpál & Kiefer (p. 6), or may only represent a specific variation or a teratology.

From the above, it is clear that the species *changaiensis* belongs in the genus *Wyochernes*, and the genus *Gobichernes* Krumpál & Kiefer, 1982 therefore becomes a junior synonym of *Wyochernes* Hoff, 1949.

Wyochernes asiaticus? (Redikorzev), new combination (Figs. 1–5)

Chelififer (*Chelanops*) *asiaticus* Redikorzev, 1922: 262–264, figs. 5–6.

Type locality: China, Tibet, Rchombo-Mtzo Lake.

Allochernes (*Allochernes*) *asiaticus* (Redikorzev): Beier, 1932: 150–151, fig. 160b; Beier, 1933: 524.

Allochernes asiaticus (Redikorzev): Roewer, 1937: 298; Hoff, 1949: 41–42; Schawaller, 1986: 6–7; Schawaller, 1989: 18, figs. 43–51; Muchmore, 1990: 389; Harvey, 1991: 535.

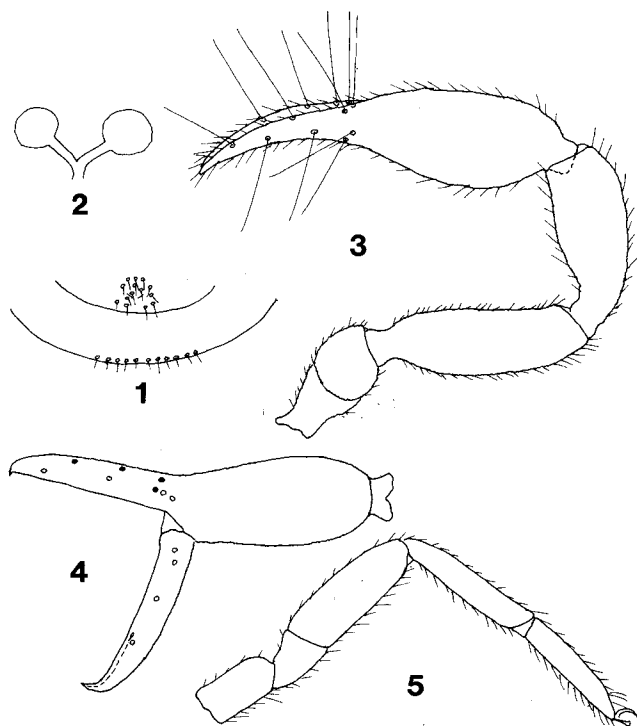
Wyochernes arcticus Muchmore, 1990: 389, figs. 1–3. NEW SYNONYMY.

Material examined: Russian Federation (Siberia), Magadanskaya Oblast', 29 km N of Magadan, Dukcha River, June 1985, Y. M. Marusik and Ryabukhin, 2♂ 3♀; mounted on slides, in Florida State Collection of Arthropods, Gainesville, Florida.

Description: Male and female generally similar, but female a little larger. Palps medium brown, carapace light brown, other parts tan. Carapace longer than broad; surface heavily granulate, with 2 transverse furrows; 2 small, smooth eyespots; 70–80 short, terminally denticulate setae, 4 at anterior and about 15 at posterior margin. Abdominal tergites 1–10 and sternites 4–10 weakly divided; surfaces of tergites heavily granulate, of sternites lightly granulate; pleural membranes longitudinally, irregularly striate; most dorsal setae short, terminally denticulate; ventral setae longer, terminally denticulate to acuminate. Tergal chaetotaxy of one specimen 18:22:17:21:23:26:25:25:26:24:14:2, others similar; sternal chaetotaxy (segments 2–12) of one male

~30:[3-3];(1)25(1):(2)18(2):27:26:23:23:21:20:T4TT4T:2; no tactile setae on tergite 11, but on sternite 11, near middle, 2 slightly differentiated, longer, acuminate setae. Anterior sternites of one female with 19:(1)11(1):(2)11(2):-; setae on anterior genital operculum clustered in centre (Fig. 1). Internal genitalia of male generally chernetid in character, large, strongly sclerotised; spermathecae of female bulbous, each with a short duct connecting to a small medium atrium (Fig. 2). Chelicera 0.3 as long as carapace; hand with 5 setae, *bs* and *sbs* denticulate, *es* of medium length, acuminate; flagellum of 3 denticulate setae; galea large, with 5-6 prominent rami, equally developed in the 2 sexes. Palp (Fig. 3) slender: L/B of trochanter 1.7-2.0, femur 3.25-3.5, tibia 2.55-2.75, and chela (without pedicel) 3.55-4.1; L/D of hand (without pedicel) 1.95-2.15; movable finger L/hand L 0.98-1.02. Surfaces heavily granulate, even on chelal fingers; setae small, terminally denticulate to acuminate. Trichobothria as in Fig. 4. Fixed finger with about 45, mostly cusped, marginal teeth, and 1 small accessory denticle on medial side near distal end; movable finger with about 50 teeth, distal 20-25 cusped, others rounded or flat on top. Venom apparatus well developed in movable finger, nodus ramosus at or just proximad of trichobothrium *t*; fixed finger with only faint vestige of duct in terminal tooth. Legs slender; leg IV (Fig. 5) with L/D of femur+patella 4.05-4.45, tibia 4.65-5.15, and tarsus 4.75-5.6. Tarsi of legs III and IV without obvious tactile setae.

Measurements (mm): Figures given first for 2♂, followed in parentheses by ranges for 3♀. Body L 2.33-2.38 (2.89-3.05). Carapace L 0.70-0.74 (0.815-0.83).



Figs. 1-5: *Wyochernes asiaticus?* (Redikorzev) from Magadan Province, Siberia. 1 Chaetotaxy of genital opercula of female; 2 Spermathecae of female; 3 Palp, dorsal view; 4 Distribution of trichobothria on palpal chela, lateral view (darkened areoles are underneath); 5 Leg IV.

Chelicera L 0.235-0.245 (0.245-0.25). Palp: trochanter 0.38-0.39 (0.41-0.43)/0.21-0.23 (0.215-0.235); femur 0.65-0.665 (0.725-0.75)/0.20-0.205 (0.21-0.22); patella 0.57-0.59 (0.63-0.635)/0.215 (0.23-0.245); chela (without pedicel) 1.02-1.11 (1.19-1.21)/0.27-0.28 (0.32-0.34); hand (without pedicel) 0.54-0.58 (0.605-0.63)/0.25-? (0.29-0.31); pedicel L 0.065-0.075 (0.08); movable finger L 0.54-0.585 (0.615-0.62). Leg IV: femur+patella 0.57-0.585 (0.64-0.67)/0.14-0.145 (0.15-0.155); tibia 0.435-0.45 (0.49-0.50)/0.09-0.095 (0.095-0.105); tarsus 0.36-0.38 (0.415-0.42)/0.075-0.08 (0.075-0.08).

Discussion

Hoff (1949: 42) declared that "the position of the tactile setae of the chelal fingers precludes the assignment of both *asiaticus* and *hutsoni* to the same genus", presumably because in *Allochernes asiaticus* seta *ist* was said to be "nur wenig distal von *est*" (Beier, 1932: 151), while in *Wyochernes hutsoni* he found that "*ist* may be located almost at the level of *est* or some distance proximal, but never distal, to *est*" (1949: 44). However, the intraspecific variation of the positions of the two trichobothria is considerable (see Hoff, 1949: 44), and in dorsal view, both in the types of *W. arcticus* and in the Magadan specimens, *ist* sometimes appears distal to *est*. I believe that *asiaticus* and *hutsoni* are indeed congeneric, in spite of the slight perceived differences in trichobothriotaxy.

The specimens from Magadan Province are similar to those from the Yukon Territory in all observed characters, including the chaetotaxy of the female genital opercula and the structure of the spermathecae. On the anterior operculum of *Wyochernes* species, the setae are closely clustered in the centre of the sternite (Hoff, 1949: 45; and see Fig. 1), while in *Allochernes* species the setae are rather widely dispersed (see Legg & Jones, 1988, fig. 27Bj for *A. wideri*, the type species; Callaini, 1986: fig. 3b, *A. siciliensis*; Harvey, 1988: fig. 119, *A. liwa*). The spermathecae, also, are distinctive; in *Wyochernes* species, they are bulbous, with short ducts attached to a small atrium (Hoff, 1949: fig. 1; and see Fig. 2), while in *Allochernes* species, they are T-shaped or appear as an inverted W (see Legg & Jones, 1988: fig. 27Bj; Callaini, 1986: figs. 4b-d; Harvey, 1988: fig. 117).

The Magadan and Yukon populations undoubtedly belong to the same species, which is probably widely distributed in the high altitudes and high latitudes in eastern Asia and western North America. However, the name of the species remains questionable. The Magadan specimens appear to be conspecific with *Allochernes asiaticus*, as determined by Schawaller (1989), but this is not entirely certain; they have not yet been compared to undoubted *asiaticus* in respect to the structure of the spermathecae. Spermathecae cannot be observed in the poorly preserved types of *C. asiaticus* Redikorzev (*W. Schawaller, in litt.*), and no other material is available from near the type locality (Tibet), which could reveal the structure of spermathecae. But if, as expected, Tibetan *asiaticus* prove to have spermathecae like *Wyochernes* species, then the Magadan and Yukon

populations can also be called *W. asiaticus*. On the other hand, if the Tibetan population has spermathecae like other species of *Allochernes*, then the Magadan and Yukon populations will be called *W. arcticus*. Obviously, additional material and further study are needed to clarify these problems. It is also quite possible that some other Asian species, presently assigned to *Allochernes*, actually belong in *Wyochernes*.

It appears very unlikely that *Allochernes* (*Allochernes*) *asiaticus nepalensis* Morikawa (1968) is closely related to *Allochernes asiaticus* (Redikorzev), because of the stoutness of the palps and the occurrence of more than a single accessory tooth on the chelal fingers (spermathecae of the holotype female were not mentioned).

Acknowledgement

I am very grateful to W. Schawaller for sending me the Siberian specimens for study.

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