Prionocera revisited (Diptera: Tipulidae)

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Abstract—The synonymy of *Prionocera chosenicola* Alexander with *Prionocera tjederi* Mannheims is discussed and the following **syn. nov.** is proposed: *Prionocera mannheimsi* Savchenko = *Prionocera byersi* Brodo. *Prionocera parrii* (Kirby) remains a **nomen dubium**. Significant range extensions are noted for *Prionocera dimidiata* (Loew), *Prionocera ominosa* (Alexander), *Prionocera oregonica* Alexander, *Prionocera pubescens* Loew, *Prionocera ringdahli* Tjeder, *Prionocera serricornis* (Zetterstedt), *Prionocera subserricornis* (Zetterstedt), and *Prionocera turcica* (Fabricius).

Résumé—La synonymie de *Prionocera chosenicola* Alexander avec *Prionocera tjederi* Mannheims est discutée et une **syn. nov.** synoymie est proposée : *Prionocera mannheimsi* Savchenko = *Prionocera byersi* Brodo. *Prionocera parrii* (Kirby) reste comme un **nomen dubium**. D'importantes nouvelles répartitions géographiques pour *Prionocera dimidiata* (Loew), *Prionocera ominosa* (Alexander), *Prionocera oregonica* Alexander, *Prionocera pubescens* Loew, *Prionocera ringdahli* Tjeder, *Prionocera serricornis* (Zetterstedt), *Prionocera subserricornis* (Zetterstedt), et *Prionocera turcica* (Fabricius) sont données.

Introduction

Prionocera Loew was monographed in 1987 (Brodo 1987). Subsequent collecting as well as the opportunity to visit several important research collections have brought to light two synonyms that are formally recognized here as well as several important range extensions.

Materials

The institutions from which I borrowed specimens are listed below.

CAS California Academy of Sciences, San Francisco, California; **CNC** Canadian National Collection, Ottawa, Canada; **EMEC** Essig Museum of Entomology, Berkeley, California; **IZBE** Estonia, Tartu, Institute of Zoology and Botany; **USNM** United States National Museum of Natural History, Washington, District of Columbia; **ZISP** Zoological Institute of the Academy of Science, St. Petersburg; **ZMUO** Finland, Oulu, Universitets Oulu, Zoologiska Muset.

Taxonomy

Prionocera chosenicola Alexander

Prionocera chosenicola Alexander 1945: 229.

Prionocera subserricornis (*nec* Zetterstedt, 1851): Lackschewitz, 1933: 139, fig. 5 (♂ genitalia, ♂ ♀ antennae).

Prionocera pubescens (*nec* Loew, 1844): Tjeder 1948: 95, fig. 13 (♂ genitalia).

Prionocera tjederi Mannheims 1952: 70, fig. 38 (♂ genitalia) (from Tjeder 1948: fig. 13, as *P. pubescens* (*nec* Loew)). Brodo 1987: figs. 25, 42, 59 (♂ genitalia); 75, 91 (♀ genitalia); map 18.

Notes on synonymy. Previously I had informally indicated that *P. tjederi* Mannheims is a junior synonym of *P. chosenicola* Alexander (Brodo 1994, 1995). This is formalized here. Oosterbroek (2010) and others (*e.g.*, Salmela 2008), however, have already accepted this synonymy.

Type material examined. *Prionocera chosenicola*: Holotype ♂, labelled: North Korea/ Kankyo Nando/Puksu Pyaksan (off-white, printed); Alt. 5500 ft/ vii–17 1939/A. Yankovsky (off-white, partially printed, and ink); HOLOTYPE/Prionocera/ chosenicola/C.P. Alexander (red, partially printed, and ink) (USNM).

Remarks. The genitalia, right wing, right antenna, and a leg (lacking last two tarsal segments) of the holotype of *P. chosenicola* are on the

Received 13 December 2010. Accepted 4 April 2011.

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doi:10.4039/tce.2012.15

holotype slide #7704. The pinned specimen has only a left antenna, left wing, and left hind leg attached to the specimen, and two additional legs are glued to a point. The original description was based solely on the male holotype and lacked illustrations. Distinctive characters such as the somewhat protruding rounded, distal corner of the broad inner gonostylus and its relatively slender distal beak lacking pigmented sensilla indicate that this is conspecific with *P. tjederi* (see Brodo 1987: fig. 59). Other characters that confirm this are the ninth tergite with dorsal processes longer than broad and lacking lateral processes (Brodo 1987: fig. 25), strongly distended flagellomeres, distinct nasus, short pale hairs on thorax and abdomen, anepisternum bare, and a contrastingly dark stigma on the wing. The holotype of *chosenicola*, with a wing length of 17 mm, is slightly longer than 16.3 mm recorded for "*tjederi*".

The type of *P. chosenicola* comes from the mountainous region of northeast Korea, very near the border with China, just south of 42°N, on Puksu Pyaksan, the second highest mountain in the province of Kankyo Nando. It was collected in "a place with suitable grass and moisture" (Alexander 1945). This species was recorded (as *tjederi*) from northern Canada, United States of America (Alaska), Czech Republic, Finland, Lithuania, Norway, Romania, Sweden, and Russia (Murmansk oblast to the East Siberian Sea) (Oosterbroek 2010). Estonia is recorded here for the first time (see below). I have now seen most of the specimens mentioned by Savchenko (1983) as *P. tjederi*, and previously plotted as open circles, indicating that these were literature references (Brodo 1987), as well as specimens cited by Lantsov and Chernov (1987) as *P. tjederi*, from Khibins, Salekhard, Taimyr, northern Yakut, and the coast of the East-Siberian Sea.

Additional material examined. Estonia: 1 ♂, 1 ♀, Muraka bog, 10.vi.1984; 1 ♂, Tipu, 7.vi.1983 (IZBE).

Prionocera mannheimsi Savchenko

Prionocera mannheimsi Savchenko 1983: 498.
Prionocera byersi Brodo 1987: 22, figs. 11, 30, 46 (♂ genitalia); 64, 80 (♀ genitalia) **syn. nov.**
Prionocera serricornis Lackschewitz 1933 (*nec* Zetterstedt, 1938).

Type material examined. *P. mannheimsi*: Holotype ♂, labelled: Polar Ural/ S. Tobols Bay, Zaitsev, 5.vii.09. (ZISP). Paratypes: 3 ♂ paratypes, Russia: Cape Horgo, Anabarskiy Bay, where Anabar River delta meets the Laptev Sea, 27.vi.1959, Chernov (ZISP).

P. byersi: Holotype ♂, labelled: Point Barrow, Alaska, 17.vii.1953, P.D. Hurd (USNM). Paratypes: 1 ♂, 2 ♀ (one as allotype), same data as holotype (CNC, USNM) (Brodo 1987).

Remarks. In 1992, I studied the type of *P. mannheims* in St. Petersburg (described from the Polar Ural) and discovered that *P. byersi* (described from Alaska) is a junior synonym of *P. mannheimsi*. The original description of *P. mannheimsi* lacked illustrations which led to this oversight.

The holotype of *mannheimsi* was collected on tundra, among mosses (Savchenko 1983). The genitalia of the male holotype of *P. mannheimsi* are embedded in cracked balsam. One can clearly make out the distinctive shape of the inner gonostylus with its long, broad, flattened beak as well as the dorsal and medial lobes on the ninth tergite (see Brodo 1987: figs. 11, 30, 46). The pinned specimen has a small nasus, and a brown thorax with the characteristic contrasting silvery grey dorsal stripe. Unfortunately, this specimen has been damaged. The right antenna has only four flagellomeres, the left has the scape and pedicel attached and flagellomeres 1–7 glued below. Only the hind left leg is attached with three tarsomeres. The thorax is damaged around the anterior spiracle. The right pleural segments show hairs on the katepisternum and dorsal anepimeron; the lack of hairs on the anepisternum and ventral katepimeron is probably due to dermestid damage (Coleoptera: Dermestidae). This specimen was incorrectly annotated as *P. serricornis* by Lackschewitz.

I only saw two of the three male paratypes mentioned in the original description and only two are listed in Savchenko and Kandybina (1987) as housed in ZISP. I confirm that they are conspecific with *P. mannheimsi*. The nasus in *P. byersi* was described as being present but small (Brodo 1987). The nasus is generally present but small in most Russian specimens, and occasionally greatly reduced to nearly absent. Among additional specimens from Taimyr, detailed below, there is similar

https://doi.org/10.4039/tce.2012.15 Published online by Cambridge University Press

variability in the nasus, and a few of these specimens have barely a hint of the species-distinctive silver stripe on the thorax. The female of *P. mannheimsi* was described and illustrated as *P. byersi* (Brodo 1987).

Additional material examined. RUSSIA: 6 ♂, 6 ♀, Taimyr Peninsula, Lenivaya River, vii.1980,Chernov (CNC); 1 ♂, Chukotzkyi National District, Shmidt Cape, SW 0.05 km from airport, 18.vii.1963, Gorodkov (CNC). **USA**: **Alaska**, 1 ♀, Point Barrow, 13.vii.1952, P.D. Hurd (EMEC) (as paratype of *Prionocera gracilistyla* Alexander = *Prionocera recta* Tjeder); 1 ♂, Barrow, 1950, N.A. Weber, No. 2660 (USNM).

Prionocera parrii (Kirby)

Remarks. *Prionocera parrii* (Kirby) remains a **nomen dubium** as explained in Brodo (1987: 72). The male antenna illustrated in Alexander and Byers (1981: fig. 10) is that of *Prionocera recta* Tjeder and the specimen upon which it is based carries the identification label *Stygeropis parrii* Kirby, det. C.P. Alexander.

Additions to known ranges of species of *Prionocera*

Prionocera dimidiata (Loew)

Remarks. This is one of the more common species of *Prionocera* found across the Boreal and subarctic regions and along the Rocky Mountains as far south as Santa Fe Co., New Mexico. I have since seen many specimens filling in parts of its range in North America including a notable western range extension of approximately 600 km (1 ♂, Flagstaff, Arizona, 28.vi.1971, E. Klee [CAS]).

Prionocera ominosa (Alexander)

Remarks. This was considered to be primarily a Nearctic species although one female had been recorded from Kamchatka (Brodo 1987). I have since seen several specimens from arctic Russia in ZISP (1 ♂, Novosibirsk tundra, 3–4.vi.1933, Arens; 2 ♂, Archangelskya Obl. Yugursky, Beli Point, 3.vii.1957, Chernov). This indicates that *P. ominosa* is a Holarctic species albeit less common in the Palaearctic. It was not recorded by Lantsov and Chernov (1987) from Taimyr. This species range has also been extended to western Alaska (1 ♂, Nogahabara dunes, 65 mi N Galena, 25–30.vi.1989, M. Polak & D.M. Wood [CNC]) and was quite numerous on Herschel Island, Yukon Territory (69.6°N, 138.9°W) where it occurred in traps set in an alluvial fen, 25–27.vi.2007 (CNC).

Prionocera oregonica Alexander

Remarks. This species has a spotty western distribution. A male from Nevada (1 ♂, Washoe Co., west side summit, Mt. Rose, meadow, 25.viii.1983, Arnaud [CAS]) is the first record of this species (and the genus) from Nevada.

Prionocera pubescens Loew

Remarks. This is a Holarctic species, but in the Nearctic had only been collected in Canada in scattered populations across the Boreal and Subarctic regions. I have since seen a specimen from United States of America (1 ♀, Alaska, Fort Yukon [66.35°N, 145.20°W], 23.vi.1928, R.E. Barrett [CAS]) and it is more widespread in the Palaearctic. I have seen in ZISP many of the specimens from localities recorded by Savchenko (1983) and shown by open circles in Brodo (1987). This species was also collected in North Korea (7 ♂, 3 ♀, N. Corea, Chonsani, Paiktusan (41°59′N, 128°05′W), 3600′, 16, 21.vii.1937, Yankovsky [as *P. subserricornis* by C.P. Alexander] [USNM]).

Prionocera recta Tjeder

Remarks This species is newly recorded and was quite numerous on Herschel Island (69.6°N, 138.9°W), Yukon Territory, where it occurred in traps set in an alluvial fen, 25–27.vi.2007 (CNC).

Prionocera ringdahli Tjeder

Remarks. Specimens from Russia, Taimyr, Dixon (3 ♂, 1 ♀, 17–22.vii.1979, Lantsov [ZISP]), extend the range of this species about 1800 km eastwards.

Prionocera serricornis (Zetterstedt)

Remarks I have seen additional specimens from Russia: Taimyr, Dixon recorded by Lantsov and Chernov (1987) as being relatively abundant,

https://doi.org/10.4039/tce.2012.15 Published online by Cambridge University Press

and a female from Yakutsk, Haisardakh-Adych (23.v.–2.vi.1885, Bunge & Toll' [USNM]).

Prionocera subserricornis (Zetterstedt)

Remarks. I have since seen and confirmed most of the Russian specimens mentioned in the literature and that were indicated by open circles (Brodo 1987) (ZISP). Oosterbroek (2010) mentions this species as "Not confirmed for North Korea (Alexander 1945)". I have seen and confirmed the following specimens of *P. subserricornis* in USNM (3 ♂, N Corea, Chonsani, Paiktusan, 3600′, 12, 16.vii.1937, Yankovsky; 1 ♂, Seren Mts., 3700′, 30.vi.1938, Yankovsky). They were determined by Alexander as *Prionocera proxima* Lackschewitz (a junior synonym of *subserricornis*).

Prionocera turcica (F.)

Remarks. Specimens from Inarin Lappi: Utsjoki, Pulmanjarvi (1 ♀, 2.vii.1983, Roine) and Enontekion Lappi: Palojoensuu (1 ♀, 13.vii.1982, Finneman [ZMUO]) mark a northern range extension in Finland. I have seen and confirmed most of the Russian specimens (ZISP) that had been based on literature records and mapped as open circles (Brodo 1987).

Acknowledgements

The Manual of Nearctic Diptera, vol. 1 (McAlpine *et al*. 1981) has been indispensable for my research. My deepest appreciation goes to the coordinators of this fine book and I am pleased to contribute to a Festschrift in their honour. Similarly, I thank Pjotr Oosterbroek for creating and maintaining the very useful Catalogue of the craneflies of the World (Oosterbroek 2010). Two reviewers and an associate editor are thanked for carefully reading and improving my manuscript. My thanks go to Dr. P. Arnaud (CAS), Drs. J. Cumming, B. Sinclair and S. Brooks (CNC), Dr. K. Elberg (IZBE), Dr. W. Mathis and the late Holly Williams (USNM), and Dr. E. Nartshuk (ZISP) for giving me access to collections. Lastly, I thank Donald Reid, Maria Leung, Scott Gilbert, and Georges-Olivier Cimon for specimens collected as part of the arctic WOLVES project, 2007 (Yukon Territory, Herschel Island) and HirondelleVarady-Szabo, Samuel Pinna, and Elise Bolduc for sorting and sending me these samples.

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https://doi.org/10.4039/tce.2012.15 Published online by Cambridge University Press