

## Resurrection of the genus *Parapsallus* Wagner (Hemiptera: Heteroptera: Miridae: Phylinae: Phylini)

RAM KESHARI DUWAL, SUNGHOON JUNG & SEUNGHWAN LEE<sup>1</sup>

*Insect Biosystematics Laboratory, Research Institute for Agricultural and Life Sciences, Department of Agricultural Biotechnology, Seoul National University, Seoul, 15-921, Korea. E-mail: phylinae@snu.ac.kr, john23@snu.ac.kr*

<sup>1</sup>*Corresponding author. E-mail: seung@snu.ac.kr*

The generic placement of *Parapsallus vitellinus* (Scholtz) has remained confused with the species having been placed in the genera, *Capsus* Fabricius, 1803 (Scholtz, 1847); *Psallus* Fieber, 1858 (Fieber, 1861); and *Plagiognathus* Fieber, 1858 (Henry & Wheeler, 1973; Schuh, 2001), in addition to *Parapsallus*. In the latest study of the taxon, Schuh (2001) treated this as belonging to *Plagiognathus* Fieber, because of similar structural affinity in the male genitalia. But in the present study, we observed the apex of endosoma is distinctly unequal, the elongated apical process remarkably curved (unlike the genus *Plagiognathus*), and the posterior wall of the female genitalia with a pair of chitinized membrane on either side are distinct and somewhat resemble with K-structures in Orthotylinae which are rare or not found in species of *Plagiognathus*. However, a few exceptional cases are reported in recent studies in the members of Phylinae (Weirauch, 2007; Schuh & Pedraza, 2010; Schuh & Weirauch, 2010). Moreover, the recent molecular-based phylogenetic analyses of Miridae indicated *Parapsallus vitellinus* as a separate clade not intermixing with the species of *Plagiognathus* (Jung & Lee, 2012). Therefore, differences manifested in morphological and genetic approaches suggest resurrection of *Parapsallus* Wagner with its only included species *P. vitellinus*. A simple diagnosis, re-description, and illustrations of male and female genital structures are provided.

### Genus *Parapsallus* Wagner, 1952

*Psallus* (*Parapsallus*) Wagner, 1952: (n. subgen.)

*Parapsallus*: Carvalho, 1958: 112 (cat.); Schuh, 1995: 371 (cat.); Kerzhner, 1988b: 789 (key); Kerzhner and Josifov, 1999: 385; Yasunaga, 2001a: 168 (note); Kwon *et al.*, 173 (cat.).

Type species: *Capsus vitellinus* Scholtz, 1847; original designation.

**Diagnosis.** Recognized by orange brown or black coloration, shagreened body; brown antennal segments and rostrum (but in dark specimens antennal segment I and base of segment II black); rows of black spots on femora; Z-shaped endosoma with distinctly unequal apical processes (Fig. 1B); sclerotized rings of anterior wall asymmetrical, broad and thin rimmed, and with distinctly chitinized structures of posterior wall resembling K-structure of Orthotylinae (Fig. 1F–G).

**Distribution.** Holarctic region.

### *Parapsallus vitellinus* (Scholtz, 1847), revised combination

(Fig. 1)

*Capsus vitellinus* Scholtz, 1847: 130 (n. sp.)

*Psallus vitellinus*: Fieber, 1861: 307 (n. comb.); Carvalho, 1958: 134 (cat.)

*Parapsallus vitellinus*: Kerzhner, 1988: 852 (key); Schuh, 1995: 371 (cat.); Kerzhner and Josifov, 1999: 385 (cat.); Yasunaga, 2001a: 168 (diag., fig.); Anufriev *et al.*, 2001: 130 (eng. transl.: key to Far East USSR); Kwon *et al.*, 2001: 174 (cat.)

*Plagiognathus vitellinus*: Henry and Wheeler, 1973 (desc., bio., fig.); Schuh, 2001: 243 (n. comb.)