Reexamination of Five Caddisfly Species (Trichoptera, Insecta) Recorded from South Korea by Kobayashi (1989)

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ABSTRACT


Keywords: taxonomy, synonym, misidentification, type specimen, Kobayashi’s collection

INTRODUCTION

Kobayashi (1989) studied caddisflies collected from South Korea, and added five species to the fauna of the Korean Peninsula: Sortosa distincta (Walker, 1852), Rhyacophila uchidai Kobayashi, 1989, Rhyacophila jirisana Kobayashi, 1989, Crunobiodes koriaensis Kobayashi, 1989, and Ganonema odaenum Kobayashi, 1989 from South Korea were reexamined. Rhyacophila uchidai and R. jirisana are newly synonymized with R. retracta Martynov, 1914 and R. vicina Botosaneanu, 1970, respectively. Furthermore, we reconfirm two synonyms proposed by Ito (2001) and Oláh and Johanson (2010), and a misidentification mentioned by Arefina et al. (1996). We also report that some specimens recorded as G. odaenum are misidentifications of Psilotreta falcata Botosaneanu, 1970.

MATERIALS AND METHODS

Specimens examined in this study are deposited in the Natural History Museum and Institute, Chiba (Fig. 1). Male(s) and female(s) of each species are preserved separately in a small glass tube with a handwritten label “number + ♂ or ♀,” and a male abdomen or a male and female abdomens together are also preserved in a small glass tube separated from his or her body with a handwritten label “number + ♂ or ♀.” These tubes are kept in a vial with a handwritten label (Fig. 1A, C, D) or directly in a large bottle used in the museum (Fig. 1B, E).
SYSTEMATIC ACCOUNTS

Order Trichoptera Kirby, 1813
Family Rhyacophilidae Stephens, 1836
Genus Rhyacophila Pictet, 1834

Rhyacophila retracta Martynov, 1914 (Figs. 1A, 2A–C)

Material examined (Fig. 1A). Rhyacophila uchidai: holotype male (abdomen separated) with hand written label “7633♂.”

Male genitalic morphology (Fig. 2A–C). Segment IX with three short lobes posterodorsally, median lobe wide in dorsal aspect, curved ventrad. Segment X rectangular in dorsal aspect, each lateral margin protruding posterodorsally. Anal sclerite weakly bilobed apically in dorsal aspect, apices dark pigmented. Inferior appendages large, basal segment rectangular in lateral aspect, distal segment thumb-like in lateral aspect, dorsal margin concaved in lateral aspect. Pair of parameres very long (apical half of left one lost), with acute apex.

Remarks. Kobayashi (1989) described R. uchidai based on a single male collected from Mt. Gayasan, Gyeongsangnam-do on 25 May 1983 by S. Uchida, and designated it as the holotype. We examined this male, and conclude that R. uchidai is the same species as R. retracta. The genitalic morphology of Kobayashi’s male agrees well with that in the original description by Martynov (1914), and also those in redescriptions by Ross (1956), Schmid (1970), Emoto (1979), and Arefina (1997). Rhyacophila retracta is widely distributed from Central Asia to Far East Asia including Korea (Morse, 2018). No related species are known from Korea.

1*Rhyacophila vicina Botosaneanu, 1970 (Figs. 1B, 2D–F)

Material examined (Fig. 1B). Rhyacophila jirisana: 1 male and 1 female abdomens labeled “7598♂♀” in large bottle labeled “HOLOTYPE”; 3 males (1 abdomen lacking) labeled “7598♂,” 3 females (1 abdomen lacking), labeled, “7598♀” in large bottle “PARATYPE”; 16 males, 3 females labeled “7613♂,” “7613♀,” or “7613♂♀” in large bottle labeled “PARATYPE.”

Male genitalic morphology (Fig. 2D–F). Segment X long triangular in lateral aspect, bilobed from basal 1/3, forceps-like in dorsal aspect. Anal sclerite long, round apex with median slit in dorsal aspect. Inferior appendages short rectangular in lateral aspect, basal segment with acute posterodorsal projection, curved mesad; distal segment bilobed, dor-

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sal lobe longer than ventral lobe, each apex round in lateral aspect.

**Remarks.** Kobayashi (1989) used 19 males and six females collected from Mt. Jirisan, Gyeongsangnam-do on 29 May 1983 for the original description, and designated one of the males as the holotype (7598). Although he probably used a cleared male abdomen in the tube labeled “7598♂♀” (Fig. 1B left) for his description, three males also bears the same number as “7598♂.” However, all males and females used in his study agree well with those of *R. vicina* described from North Korea by Botosaneanu (1970). Although we did not examine the holotype of *R. vicina*, *R. jirisana* must be a junior synonym of *R. vicina*. *R. vicina* is similar to a Korean species, *Rhyacophila confissa* Botosaneanu, 1970, but easily distinguished from the latter by the shape of segment X in dorsal aspect: Segment X is bilobed from basal 1/3 in *R. vicina*, but 2/3 in *R. confissa*. *Rhyacophila vicina* and *R. confissa* are sympatrically distributed in the Korean Peninsula (Botosaneanu, 1970; Ko and Park, 1988).

Family Philopotamidae Stephens, 1829
Genus *Dolophilodes* Ulmer, 1909

19 *Dolophilodes affinis* Levanidova and Arefina, 1996 (Fig. 1C)


Misidentification mentioned by Arefina et al. (1996).

**Material examined** (Fig. 1C). 2 males and 2 females labeled “7612♂,” “7612♀,” or “7612♂♀”; 1 female labeled as “7599♀.”

**Remarks.** Kobayashi (1989) recorded *S. distincta* from Mt. Jirisan, Gyeongsangnam-do based on two males and two females numbered “7612.” We examined these specimens and

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another female with a hand written label “7599♀” in the same vial labeled “Philopotami., 7599♂, 7612♂♀.” Although the latter female was not used in Kobayashi (1989), we recognize all the males and females as *D. affinis*.

Family Lepidostomatidae Ulmer, 1903
Genus *Lepidostoma* Rambur, 1842

*Lepidostoma sinuatum* (Martynov, 1935) (Fig. 1D)

**Material examined** (Fig. 1D). 3 males labeled “7621♂.”

**Remarks.** Kobayashi (1989) described *C. koriaensis* based on a single male collected from Mt. Gayasan, Gyeongsangnam-do on 25 May 1983, and designated the male as the holotype. However, we found three males in a vial labeled “Lepidostoma 7621♂.” In the vial, one abdomen was preserved in a tube separate from the body. Although the holotype was not specified in these specimens, all males agree with the description by Kobayashi (1989). We agree with Ito’s conclusion (2001) that Kobayashi’s *C. koriaensis* is the same as *L. sinuatum*.

Family Odontoceridae Wallengren, 1891
Genus *Psilotreta* Banks, 1899

*Psilotreta locumtenens* Botosaneanu, 1970 (Fig. 1E)

**Material examined** (Fig. 1E). 7 males and 5 females labeled “7638♂,” “7638♀,” or “7638♂♀.”

**Remarks.** Kobayashi (1989) described *G. odaenum* based on specimens collected from three sites. He designated one male as the holotype and six males and five females as paratypes, all collected from Mt. Odaesan, Gangwon-do on 1 Jun 1983. Although the holotype was not clearly discriminated among these specimens, one of seven males must be the holotype. We determined all seven males and five females to be *P. locumtenens*.

Additionally, he also used three males and three females collected from Mt. Gayasan, Gyeongsangnam-do (7617, 7632) and one male from Mt. Jirisan, Gyeongsangnam-do (7611) in his description. However, these specimens do not belong to *P. locumtenens*. We identified them as *Psilotreta falcula* Botosaneanu, 1970.

*Psilotreta falcula* Botosaneanu, 1970

**Material examined.** 1 male labeled as “7611♂”; 3 males and 3 females labeled “7617♂,” “7617♀,” “7617♂♀,” “7632♂,” “7632♀,” or “7632♂♀.”

**Remarks.** See remarks of *P. locumtenens*.

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**REFERENCES**


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