



DATES, VALIDITY AND SPELLING OF JAPANESE STONEFLIES (PLECOPTERA) DESCRIBED BY SHONEN MATSUMURA

Takao Shimizu

Hiraka 2666-24, Saku-shi, Nagano Pref., 385-0034, Japan

E-mail: kawagera@mac.com

ABSTRACT

Information in Matsumura (1931a) reveals the actual publication dates of the previously named *Nemoura japonica* Matsumura 1904 and *Dictyopterygella frequens* Matsumura 1905. *Nemoura japonica* Needham 1905 is recognized as a primary junior homonym, and *Nemoura hikosan* Shimizu is proposed as new replacement name for the species. Also, *Rhabdiopteryx japonica* Okamoto 1922 is synonymized with *Nemoura japonica* Matsumura. Some of Matsumura's specific names were misspelled in the literature, the correct original spellings are: *Nemoura japonica*, *Dictyopterygella frequens*, *Nemoura humeralis*, *Nemoura sachalinensis*, *Nemoura hirayamai* and *Apteroperla yazawai*.

Keywords: synonymy, homonymy, original spelling of names, Japan

INTRODUCTION

Though the late Professor Shonen Matsumura (1872-1960) described many Japanese insects in several publications, only two papers were so far believed to contain descriptions of stoneflies. In "Erster Beitrag zur Insekten-Fauna von Sachalin" (Matsumura 1911), the names *Nemoura humeralis* and *Nemoura sachalinensis*, were explicitly proposed for new species. In his other work "6000 illustrated insects of Japanese-Empire" (Matsumura 1931a), the names *Dictyopterygella frequens*, *Nemoura hirayamai*, *Nemoura japonica* and *Apteroperla yazawai*, were used and the species described without an indication that they were new species, except for *A. yazawai*. Matsumura (1931a) proposed a new genus and a new family, Apteroperlidae for *Apteroperla yazawai*, and Matsumura (1931b) even listed this species as one of his newly described species in the illustrated book but did not mention the other

three names.

The author reports on the actual dates of the first descriptions of the three stoneflies by Matsumura. The Entomological Laboratory of Hokkaido University (1949) listed the entomological publications of Matsumura in the Journal Matsumushi, and most of the older publications were checked in this study. All of his descriptions must be recognized as available while including objectively invalid names or nomina dubia. Misspellings of some of Matsumura's specific names was noticed and the correct original spelling is presented.

RESULTS AND DISCUSSION

Taenionema japonica (Matsumura 1904)

<http://lsid.speciesfile.org/urn:lsid:Plecoptera.speciesfile.org:TaxonName:479455>

Lectotype: A male "April 28, Maruyama, Sapporo, Hokkaido" in The Hokkaido University Museum, Sapporo. The collected year and the collector's name are not printed.

Nemoura japonica Matsumura 1904. p. 157 & fig 4 in plate 10. — Matsumura 1907. p. 52 & plate 42; Matsumura 1931a. p. 1425 with figure.

Nemoura misnoma Claassen 1936, p. 623. — Claassen 1940, p. 59; Kohno 1964, p. 32; Kawai 1960, p. 134; Illies, 1966, p. 469; Kawai 1967, p. 32; Kawai 1976, p. 39, treated as nomen nudum.

Nemoura misnosa [sic], Shimizu 1997a, p. 532, found syn. of *Rhabdiopteryx japonica* Okamoto 1922.

This species was treated as a junior homonym of *Nemoura japonica* Needham 1905 and renamed as *Nemoura misnoma* by Claassen (1936). In Matsumura (1904) the date of publication was specified as 10 September 1904 and included a description and illustration of the characters. Shimizu (1997a) found that this species was synonymous with *Taenionema japonicum* (Okamoto 1922). Shimizu (1997a) attempted to designate the lectotype of *Nemoura misnoma* with the syntype of *Nemoura japonica* Matsumura in his collection of Hokkaido University, and the lectotype is now redesignated for *Nemoura japonica* Matsumura 1904.

According to the rule of priority in zoological nomenclature, both *Nemoura japonica* Needham 1905 and *Nemoura misnoma* Claassen 1936 must be rejected, as a primary homonym and as an unnecessary replacement name, respectively. *Nemoura japonica* Matsumura, 1904 is a senior synonym of *Rhabdiopteryx japonica* Okamoto 1922 and has since been transferred to the genus *Taenionema*. *Taenionema japonicum* (Matsumura 1904) is the valid name of the species, and *T. japonicum* (Okamoto 1922) is its secondary junior homonym.

While the late Dr. Hanjiro Okamoto (1882-1960) studied under the late Prof. Shonen Matsumura, Okamoto (1922) unfortunately ignored the description of the present species. It seemed to be thought that Matsumura's works were scientifically invalid, except his work in 1911, in those days in Japan.

***Nemoura hikosan* nomen nov.**

<http://lsid.speciesfile.org/urn:lsid:Plecoptera.speciesfile.org:TaxonName:491561>

Nemoura japonica Needham 1905, p. 110. Syntype (male & female) from Mt. Hikosan, Kyushu, Japan. — Okamoto 1922, p. 36; Kohno 1964, p. 32; Illies 1966, p. 468; Kawai 1967, p. 32; Kawai 1976, p. 40; Shimizu et al. 2005, p. 279 fig. 23-6. The description in Shimizu et al. (2005) is a misidentification.

In 1998, the syntypes were examined by the present author. The syntypes were misplaced in the vial labeled "*Austroperla cyrene* (Newman)". Apparently, Needham examined the species just before describing *Nemoura japonica* Needham, 1905, perhaps leading to a female of *Austroperla* being placed in a vial with the label "female of *Nemoura japonica*, Hikosan, Buzen. 23th Aug '02" which indicated the type specimen.

The identity of this species will become clear after revisionary work on the related species, i.e. this species is probably restricted to western Honshu, Shikoku and Kyushu. The features of another similar species that is widely distributed in eastern Honshu were illustrated by Shimizu et al. (2005). Kawai (1967) also described the same species under the name of *Nemoura sachaliensis* Matsumura based on specimens from eastern Honshu.

***Dictyopterygella frequens* Matsumura 1905**

<http://lsid.speciesfile.org/urn:lsid:Plecoptera.speciesfile.org:TaxonName:7436>

Dictyopterygella frequens Matsumura 1905, Illustrated as an exemplification of Plecoptera, fig. 111 in page 187. — Matsumura 1907. p. 52 & plate 38; Matsumura 1931a. Illustrated as an exemplification of Plecoptera in page 1420; Brinck 1954, p. 199; Illies 1966, p. 511, treated as nomen dubium; Kawai 1976, p. 40, treated as nomen nudum.

Dictyogenus frequens (Matsumura): Kohno 1964, p. 34.

This species is now treated as a nomen dubium and the status is still questionable. Matsumura (1907) described the characteristics of this species as follows: body dark brown, vertex of head and median line of prothorax yellow; wings greyish

white and sub-hyaline, rather reduced venation, bearing 8 crossveins between media and cubitus 1, and 5 cross-veins between cubitus 1 and 2; legs and cerci dark yellow; body length 9-12 mm and wing expanse 27-33 mm long.

Matsumura (1907) probably measured from dry specimens. Also, he commented that this species was as common as *Nemoura japonica* Matsumura at that time. The color looks similar to that of the genus *Stavsolus*, but no information on the locality is given in his description. Still, the identity of this species cannot be settled without his specimens.

***Nemoura humeralis* Matsumura 1911**

<http://lsid.speciesfile.org/urn:lsid:Plecoptera.speciesfile.org:TaxonName:6285>

Primary junior homonym of *Nemoura humeralis* Pictet 1836

Nemoura humeralis Matsumura 1911, p. 11. — Okamoto 1922, p. 34.

Nemoura matsumura Claassen 1936, p. 623. — Claassen 1940, p. 59; Illies 1966, p. 469; Kawai, 1976, p. 40; nomen dubium.

Matsumura (1911) described the species with a female specimen from Shiraraka, Sakhalin Island, and provided limited features. So, the status of this species is questionable.

***Nemoura sachalinensis* Matsumura 1911**

<http://lsid.speciesfile.org/urn:lsid:Plecoptera.speciesfile.org:TaxonName:479404>

Nemoura sachalinensis Matsumura 1911, p. 11. — Okamoto 1922, p. 35, figs. 6 & 7 in plate V; Claassen 1940, p. 62; Kohno 1964, p. 32; Shimizu 1997b, p. 215, figs. 14. 53 & 56; Zhiltzova 2003, p. 291.

Nemoura sachaliensis [sic], Kawai 1960, p. 134. — Illies 1966, p. 212; Kawai 1967, p. 32, fig. 15e&f (misidentification); Kawai 1976, p. 18.

Both Illies (1966) and Kawai (1967) misspelled the name as *sachaliensis*.

***Nemoura hirayamai* Matsumura 1931**

<http://lsid.speciesfile.org/urn:lsid:Plecoptera.speciesfile.org:TaxonName:6413>

Nemoura hirayamai Matsumura 1931a, p. 1425 with figure. — Matsumura 1933, p. 20 & 29, fig. 5 in plate 13; Claassen 1940, p. 56; Shimizu 1997a, p. 532, found syn. of *Nemoura fulva* (Šámal 1921).

Nemoura hirayamae [sic], Kawai 1960, p. 134. — Kohno 1964, p. 32. Illies 1966, p. 212; Kawai 1967, p. 32; Kawai 1976, p. 39, treated as nomen nudum.

Matsumura (1931a, b) did not state that the name was new in the illustrated book, and no earlier publication has been found among his works. The date of publication of this species is probably 1931. Incidentally, the original spelling of the name is *hirayamai*. However, Illies (1966) and Kawai (1967) spelled the name *hirayamae*. Illies (1966) erroneously suggested that *hirayamai* in Claassen (1940) was a misspelling.

***Apteroperla yazawai* Matsumura 1931**

<http://lsid.speciesfile.org/urn:lsid:Plecoptera.speciesfile.org:TaxonName:5124>

Apteroperla yazawai Matsumura, 1931a, p. 1426 with figure. — Matsumura 1931b, p. 200; Matsumura 1933, p. 20 & 29, plate V-12; Shimizu 1997a, p. 533, fig. 1. Lectotype (female) designation, Mts. Tateyama, Japan; Shimizu & Negoro 2007, p. 58, figs. 1-4. Description of male and female.

This species was described as the type of the genus *Apteroperla* Matsumura, 1931 and the genus treated as the type of the family Apteroperlidae Matsumura, 1931. The family name is a junior synonymy of Capniidae Banks, 1900.

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