Elucidating taxonomic problems of the genus *Disparia* Nagano, 1916 of Taiwan and its neighboring areas, with description of one new species (Lepidoptera, Notodontidae)

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Abstract

The taxonomic problems of the genus *Disparia* Nagano, 1916 in Taiwan and its neighboring areas are elucidated in the present study. The hitherto well-known separated taxonomic units, *Fentonia nigrofasciata* Wileman, 1910 and *Pseudofentonia medioalbida* Nakamura, 1973, are confirmed as the conspecific species based on the type material examination. The latter is here treated as a junior synonym (*syn. nov.*). The taxon previously identified as "*D. nigrofasciata*" in most of studies is actually *D. wilemani* Matsumura, 1925 stat. rev. *Fentonia variegata* Wileman, 1910 is retained for the eastern Asian population as a subspecies of widespread *D. diluta* (Wileman, 1910) through comparison with other populations. In addition, one new species, *D. kobayashii* sp. nov., endemic to Taiwan is described. Including *D. maculata* (Moore, 1879), totally five *Disparia* species are distributed in Taiwan.

Key words: Notodontidae, Notodontinae, *Disparia*, Oriental region, Taiwan

Introduction


The genus *Disparia* itself has ever been sunk as a subgenus level of *Pseudofentonia* (Schintlmeister, 2003 [2004]; Schintlmeister and Pinratana, 2007; Wu and Fang, 2003). Schintlmeister (2008) separated these two taxa based on the absence of the costal valval process in *Disparia* and also divided *Disparia* into four subgenera, i.e., *Disparia*, *Lanna* Kemal & Kocak, 2005, *Eufentonia* Matusumura, 1922 and *Polystictina* Kiriakoff, 1968, mainly based on male genitalia differences. Though separating *Disparia* and *Neodrymonia*, Schintlmeister also noted the potential subgeneric placement of the latter under the former. On the other hand, Kobayashi (2011) noted that a pair of posterior processes of the male 8th sternum can be used to distinguish genus *Disparia* from *Neodrymonia*. The aim of the present study is to summarize taxonomic problems involving systematics of four named *Disparia* species in Taiwan, as well as to describe one new species.

Material and methods

Specimen acquisition. The examined specimens were examined or borrowed from the following institutions and private collections:
**Description.** Wingspan 45–47 mm in male (n= 5); 47–58 mm in female (n= 3).

Head. Male. Antenna bipectinate until ½ part from base in male, filiform in female.

Thorax. Thoracic segments ash grey, medial part fuscous. Forewing ground color ash grey tinged with ochreous; basal fascia grey; antemedial line dark grey, wave-like; postmedial line fuscous, lunulate between R stalk and M3 vein, indistinct in m3 cell, representing as grey and gradually extending distally from CuA1 vein to tornus; submarginal line dark grey, lunulate; marginal scales mosaic with dark grey and ash grey. Hindwing ochreous, marginal region much darker; marginal scales ash grey.

Abdomen. Abdominal 1st to 6th segments dark ochreous, remaining part grey. Male 8th sternum (Fig. 68) sclerotized; two sclerotized process extended posteriorly with apex narrowed, sharp; one medial apodeme extending forwards, gradually narrowed with flat terminal part incised posteriorly.

Male genitalia (Figs 55). Uncus stout, widest at base and tapered gradually toward apex, bifurcate at ¾ part from base to apex. Socii tube-like, long, curved at ½ part at base, apex truncate; tegumen short; vinculum short, straight; saccus smoothly U-shaped; juxta ladder-like, widest at base. Valva relatively short, widest at medial part, distal part truncate, sclerotized with triangular costal apex process. Phallus moderate long, anterior part wider, one sclerotized process arising 60 degrees of angle to phallus, stout, long, curved at ½ part from base, apex acute with several strong ridges; vesica tube-like with spinose cornuti arising from basal part to median diverticulum.

Female genitalia (Fig. 75). Ovipositor lobe membranous with short hair-like setae; apophysis anterioris short; apophysis posterioris long; ductus bursae short, sclerotized with basal part stronger; corpus bursae membranous, small with one lip-like signum ventrally.

**Distribution and bionomics.** This species, endemic to Taiwan, is distributed in mid-elevation (1760–2600 m) primary forest of Taiwan. It is presumably univoltine, adults occurring from May to July. The closely related species, *D. dua* and *D. tiga*, are flying from February to September and from March to July, (Schintlmeister, 2008), and are inferred to have more than two generations in one year.

**Etymology.** The new species is dedicated to Dr. Hideki Kobayashi, who is one of the greatest experts of the eastern Asiatic Notodontidae.

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**References**

