**MATRONA CYANOPTERA SPEC. NOV. FROM TAIWAN**  
(ODONATA: CALOPTERYGIDAE)

M. HÄMÄLÄINEN¹ and W.-C. YEH²

¹ Department of Applied Zoology, P.O. Box 27,  
FIN-00014 University of Helsinki, Finland  
[e-mail: matti.hamalainen@helsinki.fi]  
² Division of Forest Protection, Taiwan Forestry Research Institute (TFRI),  
53 Nanhai Road, Taipei, Taiwan, R.O.C.  
[e-mail: wcyeh@serv.tfri.gov.tw]

The well known Taiwanese damselfly, usually called "Matrona basilaris subsp.", is described as a new species *Matrona cyanoptera* (holotype ♂: northern Taiwan: Taipei, Neishwangshi, 29-VI-1997).

**INTRODUCTION**

It is somewhat surprising that such a conspicuous insect like the Taiwanese *Matrona* taxon has remained without a proper scientific name so long. Already MATSUMURA (1907) listed "*Matrona formosana* Mats." and "*Matrona coerulea* Mats." from Formosa and gave Japanese names for them, but no further description. Thus, they are both nomina nuda, as pointed out by LIEFTINCK et al. (1984). Possibly, the two names refer to males of different age, or to a male and female. Later, MATSUMURA (1931) listed the Taiwanese taxon as "*Matrona basilaris f. nigriceps* Selys".

RIS (1916) was the first to describe the clear differences between the continental Chinese (Tschifu) and Taiwanese specimens of *M. basilaris*.
Selys, 1853 and he stated that the Tschifu form comes closer to the original description of *basilaris*. As referred by LIEFTINCK et al. (1984), many other early authors have linked the Taiwanese specimens to *M. nigripectus* Selys, 1879. KATO (1933) mentioned "Taiwan" as the range and provided coloured illustrations for three *Matrona* species, viz. *M. nigripectus* Selys [Taiwan, southern China, India], *M. basilaris* Selys [Ryukyu, Taiwan], and surprisingly also *M. fascialis* Selys [Ryukyu, Taiwan]. Since the latter name was also furnished with "Selys" as its author, it must be considered as a writing error for *M. basilaris*, although *basilaris* and *fascialis* male specimens were illustrated.

After ASAHINA's (1962) first reference to this Taiwanese taxon, it has usually been listed as *Matrona basilaris* subsp.; in this form also by LIEFTINCK et al. (1984), who stated that "The Taiwanese form is possibly an endemic subspecies".

Due to the quite striking differences and well-isolated range, we have chosen to name the taxon as a separate species, rather than a subspecies of *basilaris*. Since it is a well known insect, it is described here only briefly without illustrations. For colour photographs of it, see WANG & HEPPNER (1997, pp. 12, 45), CHANG & WANG (1997, pp. 65-66) and YEH (1998, p. 23). Male anal appendages and abdomen end of female are illustrated in MATSUKI & LIEN (1983). Its larva was described by MATSUKI & LIEN (1978) and its karyotype was studied by KIAUTA (1968).

**MATRONA CYANOPTERA** SP. NOV.

**Type material.** - Holotype ♂: northern Taiwan: Taipei, Neishwangsi, 29-VI-1997, Wen-Chi Yeh leg.; deposited at Taiwan Forestry Research Institute (TFRI), Taipei. - Paratypes (all from the same site as holotype, Wen-Chi Yeh leg.): 3 ♂, 1 ♀, 26-VIII-1997 and 1 ♀, 29-VI-1997. - 2 ♂ and 1 ♀ in coll. Hamalainen and 1 ♂ and 1 ♀ at TFRI.

Other material is available in numerous museums and private collections.

**Etymology.** - "Blue winged" characterizing the extensive bluish shine visible on both sides of male wings.

**Male.** - *Head* metallic green above, lateral lobes of labium pale yellowish, labrum much darker. Clypeus and frons with shining blue
lustre.

Thorax wholly dark metallic green; pterothorax below wholly black, with dark line on second lateral suture. Legs all black.

Wings uniformly dark pigmented to the tips. Crossveins pale bluish, darker only at wing apexes and on outer borders beyond the basal area. Thus, seen horizontally, most of the wing surface show bluish waxy shine, also on the under surface. The intensity of this shine is somewhat variable due to amount of waxy powder on crossveins. Reticulation still somewhat denser than in *M. b. basilaris*, and strikingly more denser than in *M. b. nigripectus*. The difference can be seen e.g. in hind wing in the number of subfields and "cells" inside the area formed by the distal branch of 1A, CuP and wing border.

Abdomen above and laterally uniformly metallic green, with bluish shine. Below dark, with pale ventral carinae; the carinae more broadly yellowish on S8 and S9. Underside of S9 largely yellowish, that of S10 black. Appendages black, of similar shape as in *basilaris*.

Measurements [incl. also other specimens, than those in type material]. – Hind wing 38-43 mm; abdomen 52-60 mm.

FEMALE. – Head: unlike in male, a pair (sometime fused) of yellowish, longitudinal spots on labrum and front of the second antennal segment yellowish.

Thorax dark metallic green; colour of the second lateral suture somewhat variable; in paratype females obscurely yellowish at lower half. In southern specimens usually yellowish at lower 3/4th.

Wings uniformly dark brownish, with violet shine. Only at the very base of wings, part of the "cell centres" are subhyaline. Seen horizontally, also mature females show similar, but less distinct, waxy shine as the males. Whitish pseudopterostigma longer (2.9-3.4 mm) in forewing than in hindwing (1.7-2.5 mm).

Abdomen dull blackish brown above and on sides; middorsal carina very narrowly yellow on S8, more broadly yellow on S9 and S10, respectively. S10 with a small middorsal, apical spine. Ventral carinae yellowish, starting from S5 also the lower edge of sternites yellowish; lateral sides of S8-S10 distinctly yellowish. Appendages black.

Measurements. – Hind wing 42-48 mm; abdomen 50-56 mm.
DISCUSSION

The much greater extend of the pale bluish crossveins in males and the uniform dark colouring of wings in female make the Taiwanese specimens look quite different from those of *Matrona basilaris* Selys, 1853 and its currently recognized subspecies *nigripectus* Selys, 1879 and *japonica* Foerster, 1897. The difference in male wings can be seen by comparing for example the photographs listed above in the Introduction with those of *M. b. japonica* in IWASHASHI (1992, p. 85), HAMADA & INOUE (1985, pls 20-21), INOUE & TANI (1999, p. 18) and SUGIMURA et al. (1999, pp. 11-12) and of *M. b. nigripectus* by HÄMÄLÄINEN & PINRATANA (1999, p. 149).

Since the taxa, *nigripectus* and *japonica*, are at present ranked as subspecies of *basilaris*, we think that it would not be proper to treat the considerably more deviating and isolated Taiwanese taxon as having the same subspecific status. Consequently, we consider it as a good species.

The geographical variability of *M. basilaris* within its extensive range in Asia still requires detailed studies. There are some confusing recent records in literature, listing both *M. b. basilaris* and *M. b. nigripectus* from the same sites in China. These will be treated in another connection. It should also be briefly pointed out that *M. kricheldorffi* Karsch, 1892 is a distinct, good species, so far known only from Sichuan.

DISTRIBUTION AND HABITAT

*M. cyanoptera* is a common species in Taiwan, and it is distributed throughout the island (see distribution map in MATSUKEI & LIEN, 1989). It breeds in different kinds of flowing waters, including irrigation ditches, brooks or slow-flowing stretches of forest streams in lowland or low montane areas, below the altitude of 1500 m (cf. CHANG & WANG, 1997). Occasionally adults can be seen flying also along lakesides or on other stagnant waters; the second author even once observed a female ovipositing at a weedy margin of a semi-artificial lake, with the male guarding nearby.

The emergence of adults begins in mid February and ends in October (MATSUKI & LIEN, 1978). They can be seen on wing almost all the
year round in southern Taiwan (LIN, 1997), and in northern Taiwan they are absent only during the winter months (December to February). They are most abundant in June-August (CHANG & WANG, 1997).

*M. cyanoptera* males are highly territorial and readily defend their breeding sites. Adjacent males frequently chase each other back and forth for a distance of several metres between their territories. Copulation is rather short, lasting only 2-3 minutes. Females begin to oviposit soon after having been released from male's grasp, solitarily or with the partner male guarding nearby. Eggs are laid into soft submerged stems and leaves of weeds, growing at water margins or in water at open or semi-shaded places. Ovipositing female may gradually descend its whole body into the water. The egg-laying may last for more than half an hour at a given site.

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