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ARISTOCYPHA BAIBARANA (MATSUMURA, 1931), A GOOD ENDEMIC SPECIES IN TAIWAN (ZYGOPTERA: CHLOROCYPHIDAE)

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The taxon is considered to represent a good species, clearly distinct from *A. fenestrella* (Rambur, 1842). It is endemic to Taiwan and apparently restricted to the lower mountain zone in the central part of the island. Description of the female is given.

INTRODUCTION

MATSUMURA (1931, p. 1458) described *Rhynocypha* (sic!) *baibarana* on the basis of a single male from Baibara (= Meiyuan) in central Taiwan. The brief Japanese description was furnished with an illustration of the whole insect (without left wings). ASAHINA (1961) studied the holotype, preserved in the Entomological Institute, Hokkaido University, Sapporo, and considered *baibarana* a synonym of the widespread *R. fenestrella* Rambur, 1842, the type locality of which is Penang Island. Already earlier had LAIDLAW (1950) come to the same conclusion.

Later ASAHINA (1972) pointed out the existence of large bluish markings on the abdominal segments of the holotype male of *baibarana* and changed its status to a subspecies of *fenestrella*. He also provided a photograph of the wings and a drawing of the abdomen.

Subsequently, the combination *R. fenestrella baibarana* has been generally accepted and it is used in all major publications on Taiwanese dragonflies, such as LIEFTINCK et al. (1984), WANG & HEPPNER (1997) and CHANG & WANG (1997). The latter provided brief Chinese descriptions and small field colour photographs of both sexes.

STATUS OF THE TAXON

The first author received for his reference collection a perfectly preserved male specimen of *baibarana*, collected by W.C. Yeh in Nanshansi, Nantou Hsien, central Taiwan, 11-VII-1996. The examination of this specimen triggered doubts as to the validity of the subspecific status of *baibarana*.

The wing colour pattern of male *baibarana* (cf. ASAHINA, 1972, fig.2) is quite similar to that in *A. fenestrella* (cf. ASAHINA, 1985, figs 51-52). However, whereas the dorsum of abdomen of *fenestrella* is completely black, in *baibarana* it is furnished with distinct azure blue patches. The abdominal colour pattern of *baibarana* (cf. ASAHINA, 1972, fig.1) resembles that of *A. iridea* (Selys, 1891), but in the latter species the blue patches are divided by black along the middorsal carina. As a whole, the males of *baibarana* and *fenestrella* appear conspicuously different.

The second author studied female specimens of *baibarana* and found its colour pattern also considerably different from that of *fenestrella* female. In *baibarana* the yellow markings in poststernum are more reduced, and the abdominal segments 2-7 have large pale bluish dorsal spots.

The striking differences in both males and females indicate that *baibarana* and *fenestrella* are undoubtedly distinct species. We have adopted the full generic status of *Aristocypha* Laidlaw, 1950.

Since CHANG & WANG's (1997, p. 73) description of the female *A. baibarana* is very brief and only in Chinese, a detailed description, written by the second author, is presented here.

DESCRIPTION OF FEMALE

Figures 1-2

Material. – 1 ♀, Nanshansi, Nantou Hsien, central Taiwan, 6-IX-1995, W.C.Yeh leg.; – 1 ♀, same locality, 16-VII-1996, L.J. Wang leg.

HEAD. – Black above, marked with pale yellow spots. Labium white, the apical portion black. Labrum with a pair of closely set spots at the middle. The base of mandible with a pair of rectangular spots. Genae entirely or with the basal margin pale yellow. A pair of basolateral spots present on clypeus and a pair of dorsal spots on frons. Compound eyes dark brown above in living specimens, bordered with yellow on anteromesal margin and for a short distance on dorsal sides; the yellow area becoming expanded into a triangular patch on ventral side. The pattern of pale yellow

Figs 1-2. *Aristocypha baibarana* (Matsumura, 1931), female: (1) lateral view of thorax and dorsal view of head; – (2) ventral view of pterothorax (poststernum).

spots on epicranium is shown in Figure 1.

THORAX. – P r o t h o r a x. – Anterior lobe with a pair of lateral spots on the anterior margin, the posteriorly protruding area faintly ochreous. Middle lobe with a pair of spots on lateral sides, the posterior lower half of proleuron with a yellowish stripe. Posterior lobe with a longitudinal stripe at the middle and with a pair of small lateral spots on the posterior margin.

P t e r o t h o r a x. – The lateral yellow markings as shown in Figure 1. The dorsal triangle on mesepisternum black, only with a trace of ochreous mark on the upper third. Lateral margins of the triangle ochreous for most of their length. The ridge between antealar sinuses pale yellow. Ventral pattern of the yellow markings on poststernum as shown in Figure 2.

L e g s. – All legs entirely black, except for a pale stripe on the posterior margin of the middle and hind coxae.

W i n g s. – Hyaline, tinged with pale brown. Pterostigma covering 6-6.5 cells; bi-coloured, darker brown at the inner 1/4 and paler or nearly whitish on the remaining area.

ABDOMEN. – Black, with pale blue and yellow markings. Segments 2-7 with large pale blue dorsal spots, the spot on segments 2 and 7 occupying the basal half of the segment, those on segments 3-6 occupying the basal two thirds of each segment. Laterally, segment 1 with a triangular yellow patch on the posterior margin and segments 2-7 with yellow longitudinal stripe, which may become pale blue with age; the stripe being complete on segments 2 and 3, and interrupted as a set of two or three linear spots on the following segments. A narrow ochreous stripe on the ventrolateral side of segments 2-4 (or 5). The distal three segments and cerci black, the cerci about twice as long as segment 10.

M e a s u r e m e n t s (in mm). – Abdomen (with appendages) 21-22; – hind wing 28; – pterostigma 3.0-3.3 (in forewing), 2.9-3.1 (in hindwing).

DISTRIBUTION AND HABITATS

So far *A. baibarana* is known only from two localities in Nantou County, from Meiyuan (type locality) and Nanshansi, both within the lower mountain zone at the altitudes between 700-1000 m. The species inhabits semi-shaded shallow forest streams, with slow flow and with undisturbed and dense bank vegetation. The known flight season is from June to early September. Males and females have been observed at the same time, usually perching on sunny spots, both on rocks in the stream or on leaves near the water. They appear to be shy and escape quickly higher up when disturbed. Females have been observed laying eggs into wet rotten wood floating in the water.

MATSUKI & LIEN (1989), who first reported on the occurrence of *A. baibarana*, also in Nanshansi, provided a distribution map for this species as well for all Taiwanese Caloptera damselflies. The more widespread *Heliocypha p. perforata*

(Percheron, 1835) is known to occur in the same area, but not in the same streams as *A. baibarana*. Unfortunately, the both known *baibarana* sites are confronted with heavy human activities in their adjacency. The species must be considered very vulnerable.

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