

SHORT COMMUNICATIONS

***HELIOGOMPHUS CHAOI* SPEC. NOV.,
A NEW DRAGONFLY FROM SOUTHERN VIETNAM
(ANISOPTERA: GOMPHIDAE)**

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The new sp. is described, illustrated and compared with the similar *H. selysii* Fraser. Holotype ♂: S Vietnam, Lamdong prov., 15 km from Bao Lok to Ho-chi-minh, 6-V-1997; deposited in Kanagawa Prefectural Museum of Natural History, Odawara, Japan.

INTRODUCTION

During my recent survey of Southern Vietnamese Odonata, many interesting species have been discovered. The regional fauna is peculiar for the high average number of endemics, associated with mountain streams. KARUBE (2000, 2001) and HÄMÄLÄINEN & KARUBE (2001a, 2001b) brought on record already some new interesting species from this area. Here, a new *Heliogomphus* is described.

***HELIOGOMPHUS CHAOI* SP. NOV.**

Figures 1-14

Material. — **Holotype** ♂: southern Vietnam, Lam Dong prov., 15 km from Bao Lok to Ho-chi-minh, 6-V-1997, deposited in Kanagawa Prefectural Museum of Natural History, Odawara, Japan. — **Paratypes:** same locality as holotype, 1 ♀, 5-V-1997; — 2♂, 1♀, 16-VI-1996; — 6♂, 3♀, 31-V/1-VI-2002; — 2♂, 6-VI-2002. All H. Karube leg.

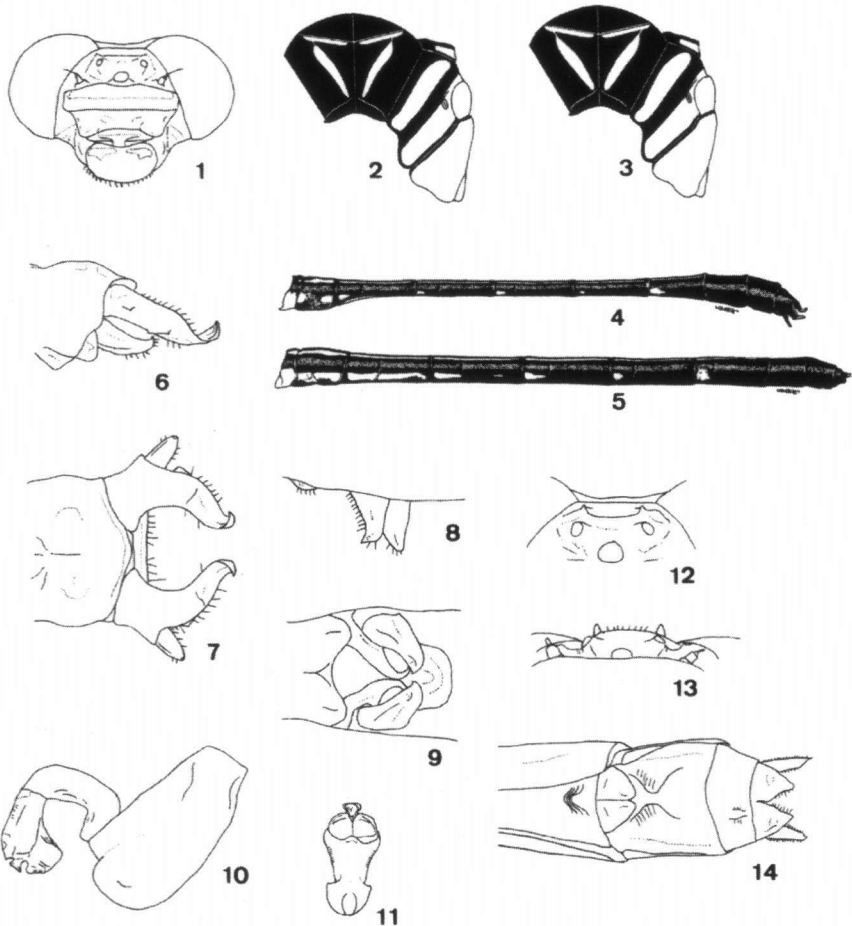
Etymology. — Dedicated to the memory of the late doyen of Chinese odonatology, Professor Dr Chao Hsiu-fu.

MALE. — Head black with greenish yellow markings; base of mandible and gena pale green; labium whitish yellow with the apex brown; labrum dark brown with a pair

of dorsal drop-shaped markings which is thin at the inner part and broadend laterally; anteclypeus brown; postclypeus black; antefrons with a broad band at the crest; vertex not developed; occiput black, rather roundly raised.

T h o r a x. — Prothorax black, with a pair of yellow spots near the lateral apices, with a pair of small spots adjacent each other at the mid dorsal part of median lobe.

Pterothorax black, with symmetrically greenish yellow marks as follows: antehumeral stripe tapered to ventrad, with joining near the end of mesothoracic collar; mesokatepister-



Figs 1-14. *Heliogomphus chaoi* sp. nov. (male: Figs 1, 2, 4, 6-11; female: Figs 3, 5, 12-14): (1) head in frontal view; — (2-3) thorax, dorsal view; — (4-5) abdomen, oblique lateral view; — (6) caudal appendages, lateral view; — (7) same, dorsal view; — (8) accessory genitalia, lateral view; — (9) same, ventral view; — (10) penis, lateral view; — (11) distal segment of penis, ventral view; — (12) posterior part of head, oblique frontal view; — (13) same, frontal view; — (14) apical segments, ventral view.

num with a triangular ventral spot; mesepimeron with a median stripe which stops close to posterior margin; metepisternum with band tapered to dorsad; metepimeron largely greenish except for metapleural suture; poststernum greenish yellow; outsides of coxae yellowish. Legs rather long, black.

Wings hyaline; nodal index: forewings with 13-16 antenodals and 9-12 postnodals, hindwings with 10-15 antenodals and 10-13 postnodals; pterostigma brown, expanded at the middle, 2.2-2.8 and 2.5-3.0 mm in length in fore- and in hindwing, respectively.

A b d o m e n. — Black with greenish yellow markings; 1st segment with a band at ventral half, with thin triangular markings at the dorso-posterior area; a thin longitudinal line runs on the dorsal carina from the anterior border of the 2nd to the end of the 7th segment; segment 2 with lateral marks at the auricle and with dim ventral band, the latter is connected with medio-posterior marking near border; 3rd to 8th segments with a small spot on base, 9 to 10th segment entirely black.

Caudal appendages dark brown and slender. Superior appendage dark brown except for a whitish apical half, forcipate with the apex strongly curled upwards, with strong lateral spines at the basal 1/5 and also with broad latero-ventral projections at the basal half. Inferior appendages very widely divaricated, the lobe tapered apicad and rather curved upwards, apex with a dorsal spine.

Genitalia. — Anterior hamule invisible in lateral view, strongly inclined backwards and crossed inner part of posterior hamule, slender and long, thinner from the middle, strongly hooked backwards at the apex; posterior hamuli rather broad, bill-shaped, with apex triangularly pointed anteriorly. Vesicle developed, expanded dorso-anteriorly, with a shallow median notch at the anterior area; stem slightly bent; middle segment robust, tapered to apex; distal segment trumpet-shaped; posterior lobe semicircularly protruded, with small tubercular apex.

M e a s u r e m e n t s (mm). — Abdomen (incl. app.) 31.7-34.1, hindwing 26.7-28.5 in length.

FEMALE. — Maculate pattern similar to those of male. Greenish yellow markings of labrum more developed; vertex with strong spines at the small ridge behind each lateral ocellus, and with a pair of vestigial spots at the posterior slope of vertex.

Wings hyaline; nodal index: forewings with 14-16 antenodals and 10-13 postnodals, hindwings with 11-12 antenodals and 10-13 postnodals; pterostigma brown, expanded at the middle, 2.9-3.0 and 3.0-3.3 mm in length in the fore- and hindwing, respectively.

Yellow markings of abdomen more developed, a thin longitudinal line runs on the dorsal carina from the anterior border of the 1st to the end of the 7th segment; 1st segment with band at the ventral 2/3; 2nd to 3rd with medio-lateral band; 4th to 7th segments with a wedge-shaped spot on each base; posterior part of 4th with vestigial one; 8th with dimly patch; 9-10th segment entirely black.

Valvular valvae semicircular, with the apex notched and bilobed, with the apical part of each lobe rounded. Cerci dark brown and about 2 times as long as 10th, with pointed apex.

M e a s u r e m e n t s (mm). — Abdomen (incl. app.) 34.5-34.9, hindwing 31.0-31.6 in length.

DISTRIBUTION. — Southern Vietnam.

DIFFERENTIAL DIAGNOSIS. — Two species of the genus *Heliogomphus* have been hitherto recorded from Vietnam, viz. *H. scorpio* and *H. retroflexus* (ASAHINA, 1996; TSUDA, 2000).

This new species is similar to *H. selysi* described from Leito, Burma, and also recorded from Assam (FRASER, 1934) and Thailand (ASAHINA, 1981, 1986; HÄMÄLÄINEN & PINRATANA, 1999). It is easily distinguished from the latter as follows: (1) latero-ventral projections at near the middle of male superior appendages, (2) female valvular valvae are broad with rounded apex (valvular valvae of *H. selysi* slender with triangular apex), (3) female without a pair of post-occipital spines, (4) female with a pair of spines behind the lateral ocellus.

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