

**DESCRIPTION OF *DEVADATTA GLAUCINOTATA* SPEC. NOV.
FROM LAOS
(ZYGOPTERA: AMPHIPTERYGIDAE)**

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The new sp. (holotype ♂: Phatang, Vang Vieng area, central Laos, 20-IV-2002; deposited at NSMT, Tokyo) is described, illustrated and compared with the allied spp.

INTRODUCTION

In April 2002 the author had a chance to visit Vang Vieng area in Vientiane province, central Laos. Many interesting submontane Odonata species could be observed and collected in natural forests. Among them was a *Devadatta* species, which can readily be recognized as a new species by the striking blue-gray colour pattern on the thorax. It is the third species of its genus known to occur in Laos.

***DEVADATTA GLAUCINOTATA* SP. NOV.**

Figures 1, 2a, 3-4

M a t e r i a l. — **Holotype** ♂: Laos, Vientiane province, Vang Vieng area, Phatang, 20-IV-2002, Akihiko Sasamoto leg. Holotype will be deposited in the National Science Museum, Tokyo. Paratypes: 2 ♂, same place and collector, 22- IV-2002, deposited in author's private collection and in Coll. Matti Hämäläinen.

E t y m o l o g y. — The species name "*glaucinotata*" means "having maculations of pale blue-gray colour", deriving from the characteristic colour of the sides of the pterothorax.

MALE. — **H e a d.** — Labium creamy ochreous, tips of hooks black; part of base of mandibles and adjoining part of genae pale blue; margin of base of mandible, labrum, anteclypeus, postclypeus, frons, vertex and occiput entirely dark indigo blue with metallic lustre. Between posterior ocelli and base of antennae an obscure ochreous spot. Antennae

uniform brownish. Rear of head dark brown with whitish pruinescence. Width across eyes 5.8 mm.

T h o r a x . — Prothorax with anterior lobe bluish gray; median lobe black with large creamy white quadrangle spots laterally; posterior lobe wholly blue-gray, with a pair of very thin black streaks running along erected pronotal ridge.

Dorsum of pterothorax wholly black. Mesepimeron and metepisternum largely blue-gray, with anterior corner of mesepimeron black and with a blackish, somewhat obscure stripe above the second lateral suture crossing the stigma and at wing margin extending obscurely upwards along subalar ridge. Metepimeron blue-gray, with obscure dark markings in anterior half and on wing border. Ventral surface of thorax pale gray with several dirty spotty markings. Coxa, trochanter intermingled with blackish brown and dirty gray colour. Femora and tibiae brownish black, obscurely striped with grayish colour; inner surface of hind tibiae pale.

Wings (Fig. 2a) — Membrane hyaline, slightly suffused with brownish colour in older specimens. Venation black. Number of antenodals 8-10 in both wings, 35-39 postnodals in fore-, and 28-33 in hind wing. In both wings 4-5 antenodal nervures where the costal and subcostal halves coincide; accessory antenodals in costal half number 4-5 in fore wing and 4-6 in hind wing. Ac situated between 3rd and 4th antenodal veins in fore wing, at 4th or between 4th and 5th in hind wing. Both wings petiolated slightly proximal to Ac. Arc situated at 4th antenodal vein in fore-, and at 5th in hind wing. Discoidal cell 4-celled, costal side 6 times as long as proximal side. Pterostigma with about 3 1/2 to 4 underlying cells. Posterior margin of pterostigma slightly swollen, proximal side very oblique. Longitudinal veins are gently recurving towards wing margin, especially in hind wing.

A b d o m e n . — Segment 1 black, covered broadly by obscure pale blue colour on dorsum. S2-S7 black, with pair of tiny baso-lateral, creamy white spots as follows: spot on S2 short and streak-like, those on S3-S7 notch-like, becoming smaller and

semicircular towards apical segments. S8-S10 wholly black. S9 conspicuously broadening towards apex, but S10 again slightly narrowing towards apex.

Anal appendages (Figs 3a-b). — Superior appendages are about 1.5 times longer than S10. Distal half of superiors incurving and dilating inwards, slight-

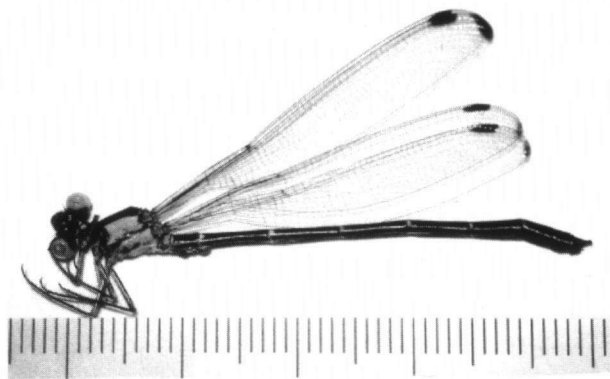


Fig. 1. *Devadatta glaucinotata* sp. n., ♂ holotype.

ly curving downwards at its apex. Inferior appendages are about one-half of the length of the superiors, with distal portion slightly curving upwards, its tips forming sharpened hooks pointing inwards.

Penile organ (Figs 4a-b). — Glans of penis with slender protuberances, apices of which are slightly dilated. The stem of penis bearing many golden yellow hairs on both sides.

Measurements (in mm). — Abdomen, including appendages 36-38; hind wing 29-32.5.

FEMALE unknown.

NOTES ON HABITAT AND ECOLOGY. — These damselflies were found at a small, shallow trickle on a steep shadowy and rocky slope covered with dense tall bushes in an intact forest. The type locality, Phatang, is a submontane valley area, located in central Laos, ca 300 m high above sea level. The habitat is typical for a *Devadatta* (cf. LIEFTINCK, 1954). The males seemed to keep small territories in shadowy spots and perched at thin sticks above the water and were never observed at a sunny spot. At the same site, *Burmargiolestes melanothorax* (Selys, 1891), *Coelliccia d. didyma* (Selys, 1863) and *C. chromothorax* (Selys, 1891) were observed.

DISCUSSION

D. glaucinotata sp. n. differs from all other described congeners by its conspicuous bluish colour pattern of pro- and synthorax. The basic structure of the apical abdominal segments, anal appendages and penile organ indicate that the new species is closely related to *D. ducatrix* LIEFTINCK, 1969, which was described on the basis of a single male from "Tonkin, Than Moi", a site in Lang Son province in northern Vietnam. I have studied 4 males and 2 female specimens of *D. ducatrix* from Tam Dao, Vinh Phu province, Vietnam kindly provided by M. Takagi. *D. glaucinotata* sp. n. and *D. ducatrix* males differ markedly in the colour pattern, shape of wings and venation.

— *D. glaucinotata* (Fig. 1) is a slimmer insect compared with the more robust *ducatrix* (Fig. 5).

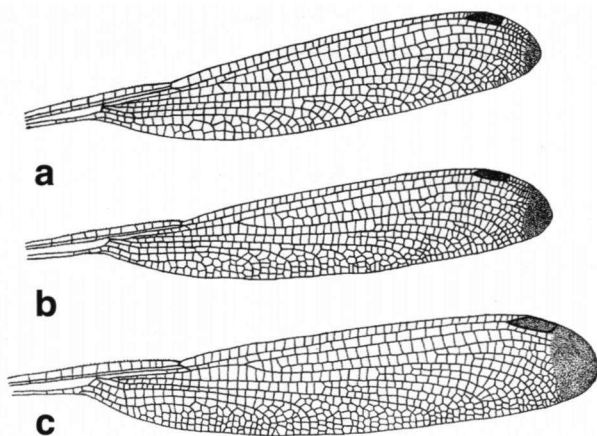
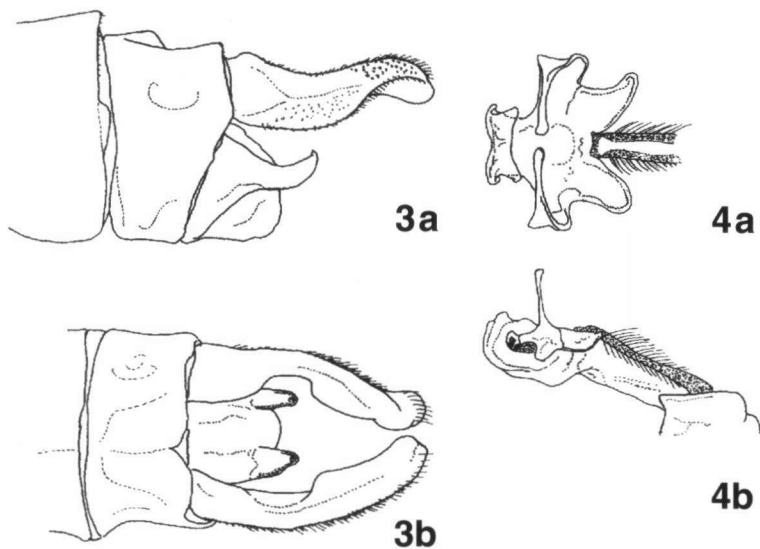


Fig. 2. *Devadatta* spp. fore wings: (a) *glaucinotata* sp.n., holotype; — (b) sp. from Laos; identity uncertain; cf. text; — (c) *ducatrix* from Vietnam.

- Part of the base of mandibles and adjacent part of genae are pale bluish in *glaucinotata*, but blackish brown in *ducatrix*.
- Posterior lobe of pterothorax is wholly blue-gray in *glaucinotata*, black in *ducatrix*.
- In *glaucinotata*, the humeral suture sharply delimitates upper black and lower blue-gray area (permanent colour, not pruinescence) on sides of pterothorax. In *ducatrix*, pterothorax is wholly black with thick pruinescence in older specimens, somewhat variable in its extend.
- Wings of *glaucinotata* (Fig. 2a) are clearly narrower; in *ducatrix* the wing (Fig. 2c) broadens more abruptly after the petiolation at base; apical dark spots wider in *ducatrix*.
- In *glaucinotata* only one cell row between IA and hind wing border, 2-3 rows in *ducatrix*.
- Ends of the longitudinal veins bend quite smoothly towards the wing border in *glaucinotata* (Fig. 2a), whereas in *ducatrix* they recurve clearly more abruptly (Fig. 2c), in fore wing entering almost perpendicularly to the wing border.
- Inferior appendages of *glaucinotata* are gently curving upwards (Fig. 1), but in *ducatrix* they are relatively linear (cf. fig. 2 in LIEFTINCK, 1969).
- In ventral view, the apical border of S10 looks more concave and S10 proportionally shorter in *glaucinotata* than in *ducatrix*.



Figs 3-4. *Devadatta glaucinotata* sp. n., ♂ holotype: (3) caudal appendages: (a) left lateral view; – (b) dorsal view; – (4) penile organ: (a) ventral view; – (b) left lateral view (including anterior hamulus).

Recently YOKOI (1999) reported on 2 males identified as *D. ducatrix* from Vang Vieng, stating "The specimens agree with *D. ducatrix* from Vietnam, described by LIEFTINCK (1969), in each part of body and appendages". Thanks to his kindness, I had an opportunity to examine these specimens and compare them with Vietnamese specimens



Fig. 5. *Devadatta ducatrix* ♂ from Vietnam.

of *ducatrix*. Colour pattern of head and abdomen, the structure of penile organ, and anal appendages are similar as in the Vietnamese *ducatrix* specimens, but the Vang Vieng specimens differ in the following points:

- Wings are narrower, slightly less rounded at apex; only two cell rows between 1A and wing border in hind wing (2-3 rows in Vietnamese *ducatrix*). Wing tips less extensively darkened. However, the longitudinal veins curve towards wing border as abruptly as in Vietnamese *ducatrix* (Fig. 2c).
- Anterior lobe of prothorax has two small oval-shaped yellow spots, while wholly black in Vietnamese *ducatrix*.
- Black sides of pterothorax are furnished with distinct pale stripes along the lateral sutures (see YOKOI, 1999, p. 3, fig. 4); pterothorax slightly pruinescent ventrolaterally and ventrally. The pale stripes resembles those described by FRASER (1933) for his *D. multinervosa* from "Pu Tat, Laos". However, according to LIEFTINCK (1969), *multinervosa* has male inferior appendages "reduced to mere blunt tubercles" and in it the "ends of longitudinal veins and their supplements are gently recurved towards the wing margin".

These differences bring some doubt of the identity of Yokoi's Vang Vieng specimens. Until more *Devadatta* material, including females, from areas between Vang Vieng and Vietnam come available, I prefer to leave their identity open. Anyway Yokoi's specimens are also very distinct from *D. glaucinotata* spec.nov. It is surprising that two *Devadatta* species occur in sites only some 20 km apart.

It should be pointed out here also that, according to the information received from Dr Matti Hämäläinen (pers. comm., 2002), neither of these Lao taxa are conspecific with the undescribed *Devadatta* species, preliminarily reported from Central Vietnam by VAN TOL & ROZENDAAL (1995). Thus, at least 4-5 *Devadatta* species occur in Indochina.

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