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Negrobovus, a new genus from the Philippines (Diptera: Dolichopodidae: Sympycninae)

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Negrobovus gen. nov. – новый род с Филиппинских островов (Diptera: Dolichopodidae: Sympycninae)

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Abstract. *Negrobovus* **gen. nov.** with type species *N. philippinensis* **sp. nov.** is described from the Philippines. The new genus is closely related to the genera *Sympycnus* Loew and *Chaetogonopteron* De Meijere, and is distinguished based on characters of the mid and hind legs and features of the male genitalia.

Key words. Sympycninae, Oriental region, new genus, new species, key.

Резюме. С Филиппин описан новый род *Negrobovus* **gen. nov.** с типовым видом *N. philippinensis* **sp. nov.** Новый род близок к родам *Sympycnus* Loew и *Chaetogonopteron* De Meijere, но отличается от них признаками самцов на средних и задних ногах и особенностями строения гениталий самцов.

Ключевые слова. Sympycninae, Ориентальная область, новый род, новый вид, определитель.

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Introduction

In the world catalogue of Dolichopodidae (Yang et al., 2007), 16 sympycnine species were listed from the Philippines, 10 of which are in genus *Sympycnus* Loew, 1857. We found a distinctive group of specimens, which looks like *Sympycnus* or *Chaetogonopteron* De Meijere, 1914 having the following characters: small postpedicel, mesonotum with round mid-posterior slope, mid and hind femora each with anterior preapical bristle, hind tarsomere 1 shortened, anal cell present and anal vein distinct in the wing, hypopygium small and encapsulated. However, these specimens have the next distinctive features: mid tarsomere 1 is long and thick, hind tarsomere 1 is shortened and swollen, and the epandrium has long basal lobe.

Material and methods

The specimens in this study were collected by various collectors with sweep netting in the Philippines about 50 years ago. The type material is deposited in the Bishop Museum Entomology Collection, Honolulu, Hawaii, USA.

Morphological terminology for adult structures mainly follows McAlpine (1981). Terms for structures of male genitalia follow Cumming et al. (1995), namely: acr – acrostichal bristles, ad – anterodorsal, av – anteroventral, CuAx ratio – length of dm-m crossvein/distal section M_4, dc – dorsocentral bristles, LI – fore leg, LII – mid leg, LIII – hind leg, M – Malaise trap, pd – posterodorsal bristle, pv – posteroventral bristle, v – ventral bristle.

Taxonomic part

Subfamily Sympycninae

Negrobovus gen. nov.

http://zoobank.org/57F6E6F2-4709-4082-93A9-45C99E10000B

Type species: *Negrobovus philippinensis* **sp. nov.**

Diagnosis. Small flies (2.0–2.5 mm) with metallic gloss, with many sympycnine characters: male antennae of type species small, *Sympycnus*-shape; first segment pubescent; third segment setose, with a dorsal arista; mesoscutum without flattened area in front of the scutellum, with biseriate acr; feebly bristled legs, hind femur with preapical bristle; 1 propleural bristle on lower part; characteristic shape of the small sessile hypopygium.

Description. *Male*. Head. Seen from the front, round, higher than broad; vertex not excavated, evenly rounded above upper level of eyes, with a slightly elevated ocellar callus. Upper postcranium convex above neck, flattened upwards. Frons gradually narrowing downwards, eyes contiguous on middle 1/2 of face. Palpi and rostrum small, dark brown. Mouthparts sympycnine-type. Eyes without enlarged facets. 2 rather long, diverging ocellars; 2 converging verticals, shorter than ocellars, inserted high on vertex at eye margin; 2 tiny postocellars; no postverticals differentiated from the row of postoculars. Postoculars uniseriate.

Thorax dorsally vaulted, without flattened area in front of the scutellum, dark metallic green with pale grey pollen; pleuron dark brown, a black dot under the wing base. 6 dc (first dc rather short), acr 6–8 irregular pairs. Propleuron with 1 black bristle and 3 pale setae on lower part. Legs yellow, slender except mid basal tarsomere and hind femur broad distinctly. Hind tarsomeres 1–2 shortened and swollen, covered with long setae. Each femur with row of long v, mid and hind femora each with 1 outer lateral bristle near apex. Wing with common *Sympycnus* shape, hyaline, tinged with grey.

Abdomen cylindrical, longer than thorax, with 6 visible segments, tergites metallic green with grey pollen, sternites dark brown. Setae and marginal bristles on terga short. Hypopygium small and encapsulated; surstylus divided into two short overlapping arms; epandrial lobe very long and located at base of surstylus.

Etymology. The generic name is dedicated to Oleg P. Negrobov for his great contribution to the study of the family Dolichopodidae.

Remarks. This new genus obviously belongs to the subfamily Sympycninae, and is similar to genera *Sympycnus* and *Chaetogonopteron*. However, it can be separated from the *Sympycnus* by mid tarsomere 1 distinctly long and thick (longer and thicker than mid tibia), and thick hind femur; *Sympycnus* species has the normal mid tarsomere 1 and hind femur (not lengthened or thickened). Also new genus can be separated from the *Chaetogonopteron* by both characters mentioned above, and additionally by the absence of an appendage on hind tarsomere 2. In turn *Chaetogonopteron* species have the normal mid tarsomere 1 and hind femur (not lengthened or thickened) and appendage on hind tarsomere 2.

Key to the Oriental genera of subfamily Sympycninae

1. First antennal segment with dorsal setae; third antennal segment long and wide, with obtuse apex ... . ***Hercostomoides*** Meuffels et Grootaert, 1997
– First antennal segment without dorsal setae; third antennal segment triangular, with acute apex ... 2
2. Second antennal segment with a finger-like apical inner process projected into basal inner concavity of third antennal segment ..... ***Syntormon*** Loew, 1857

– Second antennal segment normal, without finger-like apical inner process 3
3. Male mid tibia curved inward; abdomen shorter than thorax ..... ***Campsicnemus*** Haliday, 1851
– Male mid tibia not curved inward; abdomen distinctly longer than thorax 4
4. Costa not ending at M, but between R_{4+5} and M; A absent ... ***Scotiomyia*** Meuffels et Grootaert, 1997
– Costa ending at M; A present 5
5. Crossvein dm-m oblique; apical portion of M turning up after dm-m ... ***Teuchophorus*** Loew, 1857
– Crossvein dm-m not oblique; apical portion of M not turning up after dm-m 6
6. Third antennal segment small, with round apex ..... ***Lamprochromus*** Mik, 1878
– Third antennal segment long or short triangular, with acute apex 7
7. Female head with clypeus strongly bulging; thorax with mesonotum with 3 or 4 pairs of strong dc; male fore leg with some tarsomeres usually shortened, flattened, or ornamented with processes, spines, or remarkable setulae; male hind leg with tarsomeres 2–5 regularly decreasing in length; male hind tarsomere 1 often ornamented with remarkable setae or setulae ..... ***Telmaturgus*** Mik, 1874
– Female head with clypeus more or less flat, or slightly bulging (female unknown in *Negrobovus*); thorax with mesonotum with at least 5 pairs of strong dc; fore tarsomeres usually simple or shortened, rarely ornamented with remarkable setulae; male hind leg with tarsomeres 2–5 either regularly decreasing in length or with at least 1 tarsomere shortened; male hind tarsomere 1 rarely ornamented with remarkable setae or setulae 8
8. Male hind tarsomeres 1–2 shortened, segment 2 usually with clidium ..... ***Chaetogonopteron*** De Meijere, 1914
– At most male hind tarsomere 1 shortened, segment 2 without clidium 9
9. Male mid tarsomere 1 long, longer than mid tibia and thickened; epandrium with long basal lobe ... ***Negrobovus* gen. nov.**
– Male mid tarsomere 1 normal, not longer than mid tibia or thick; epandrium without or only with short basal lobe ..... ***Sympycnus*** Loew, 1857

***Negrobovus philippinensis* sp. nov.**

http://zoobank.org/DE2535F0-0A6A-462D-A7D5-07FC29F31FEF

Figs 1–7

Type material. *Holotype*: male, PHILIPPINES. Luzon Dalton Pass, 915 m, Nueva Vizcaya 3000', 9–10.IV.1968, M.D. Delfinado leg.

Paratypes. 5 males, same data as holotype; 2 males, same label, but D.E. Hardy leg.

Description. *Male* (Fig. 1). Body length 2.0–2.5 mm, wing length 2.2–2.3 mm.

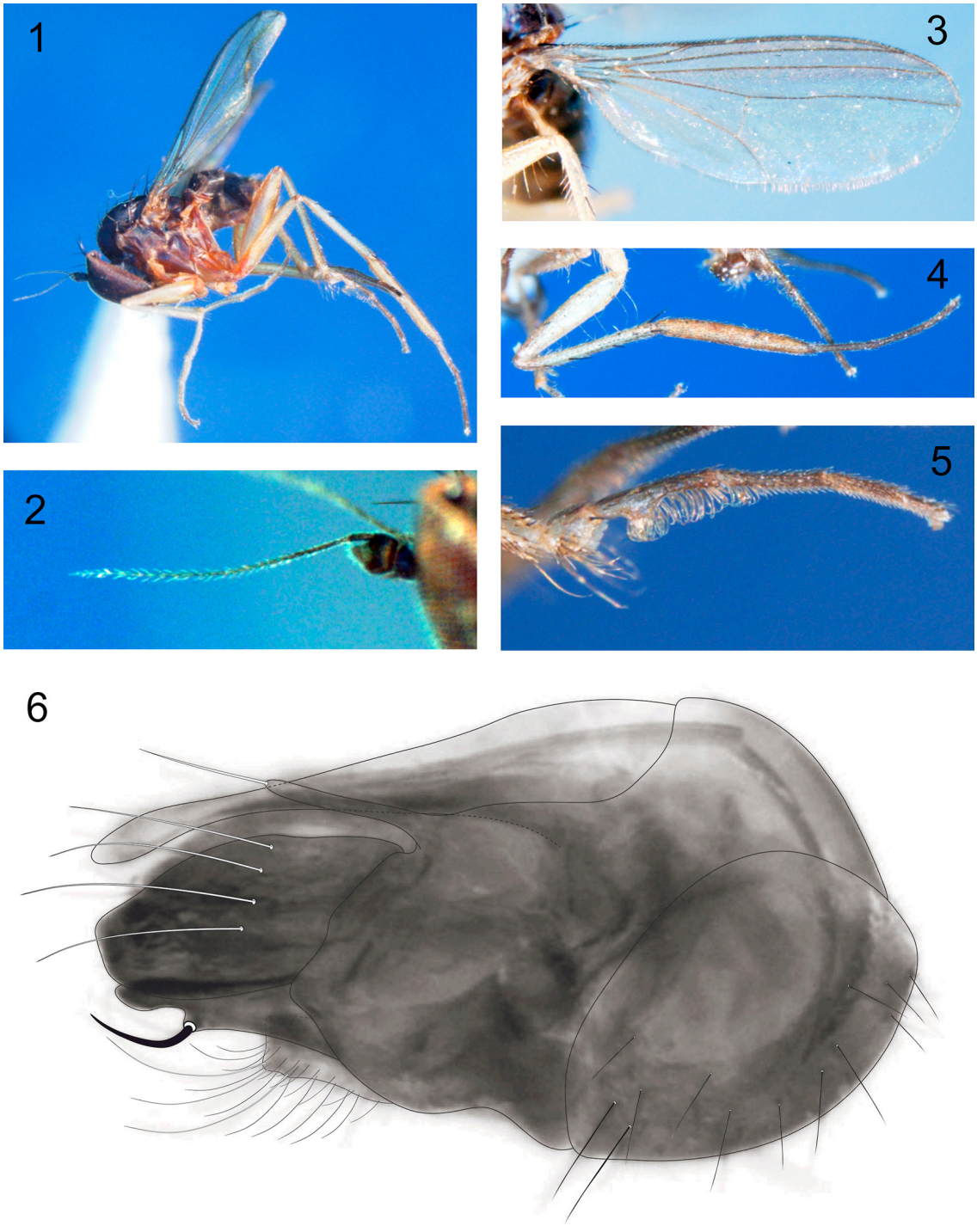
Head metallic green, with pale grey pollinosity, face with white pollen on lower portion; eyes contiguous on middle of face. Setae and bristles on head black; lower postocular bristles (including posterior ventral setae) black. Antenna black; postpedicel small, brown, subtriangular, as long as wide; arista dorsal, dark brown, very shortly pubescent, with basal segment rather short (Fig. 2). Proboscis brown with black setae; palpus dark brown with black setae and apical bristle.

Thorax dark metallic green with pale grey pollen; pleuron dark brown, a black dot under the wing base. Setae and bristles on thorax black; 6 dc (first dc rather short), 6–8 irregularly paired acr. Propleuron with 1 black bristle and 3 pale setae on lower part. Legs yellow; fore coxa yellow, mid and hind coxae dark yellow, all tarsus brownish. Setae and bristles on legs black; fore and mid coxae with 6 anterior and apical bristles, hind coxae each with 1 outer bristle. Each femur with row of long v, mid and hind femora each with outer lateral bristle near apex. Fore tibia apically with 2 pd; mid tibia with 3 ad, 2 pd, apically with 4 bristles; hind tibia with 2 pd, apically with 3 bristles and 1 ventral seta. Mid tarsomere 1 long (longer than mid tibia) and thickened with short pubescence (Fig. 4). Hind tarsomere 1 shortened and swollen, with 1 long dorsal seta and cluster of long ventral setae; tarsomere 2 thickened at basal half, with ventral tubercle at basal 1/3, with dorsal row of long setae and ventral rows of long setae, without worm-like appendage (Fig. 5); basal half of tarsomere 3 with ventral rows of long setae. Relative lengths of tibia and 5 tarsomeres: LI 3.6 : 2.0 : 1.0 : 1.0 : 0.6 : 0.4; LII 4.2 : 4.4 : 1.6 : 1.4 : 0.8 : 0.6; LIII 5.2 : 1.0 : 1.6 : 1.2: 1.0 : 0.6.

Wing hyaline, tinged with grey (Fig. 3); veins brown, R_{4+5} and M parallel apically, M weakly bent at middle; CuAx ratio 0.6. Lower calypter brown with dark margin, and with long black setae. Halter brown.

Abdomen with tergites metallic green with grey pollen, sternites dark brown, setae and bristles on abdomen black, male sternum 8 with 2 bristles. Male genitalia (Fig. 6). Epandrium distinctly longer than wide, with long basal lobe, bearing 1 apical long bristles, its surstylus with finger-like dorsal lobe, bearing 1 bristle; and wide ventral lobe, basally with 4 long bristles on middle portion; cercus somewhat narrow apically; hypandrium rather thick, longer than surstylus.

Female. Unknown.



Figs 1–6. *Negrobovus philippinensis* **sp. nov.** (holotype, male). 1 – habitus of the body, lateral view; 2 – antenna, lateral view; 3 – wing; 4 – mid leg, lateral view; 5 – hind tarsus, lateral view; 6 – genitalia, lateral view.

Diagnosis. Thorax and abdomen dark metallic green. Mid tarsomere 1 long (longer than mid tibia) and thickened with short pubescence. Hind tarsomere 1 shortened and swollen, covered with long setae, tarsomere 2 covered with rows of long setae, without worm-like appendage.

Etymology. The species is named for the country of origin, Philippines.

Discussion

The genera *Chaetogonopteron* and *Sympycnus* form a complex. *Chaetogonopteron* is well characterised by having the first tarsal segment of hind leg strikingly shortened in both sexes. Moreover, many species have the second tarsal segment of the hind leg also shortened, and usually this segment bears a peculiar appendage called the clidium (Meuffels, Grootaert, 1987). These "*Chaetogonopteron*" sensu stricto species are very prolific group in the Oriental and Australasian regions. Major references to this genus for the Oriental region dealing with *Chaetogonopteron* are Becker (1922), Parent (1934), Hollis (1964) and Meuffels, Grootaert (1987, 1997). However, there are a number of species that look like *Chaetogonopteron*, but do not have the hind metatarsus so shortened and therefore are intermediary forms of *Sympycnus*. Bickel (1992) and Meuffels with Grootaert (1997) pointed already to that problem suggesting that *Sympycnus* is polyphyletic, grouping species of various origins. It is clear that a cladistic study will be necessary to solve that problem. At the moment we consider all Chinese species to belong to *Chaetogonopteron*, quite aware of the fact that some species might be attributed to *Sympycnus*.

Negrobovus gen. nov. is similar to *Sympycnus* and *Chaetogonopteron* in possessing the following characters: small postpedicel, mesonotum with round mid-posterior slope, mid and hind femora each with anterior preapical bristle, hind tarsomere shortened, wing anal cell present and anal vein distinct, hypopygium small and encapsulated. However this new genus differs in mid tarsomere 1 long and thick, hind tarsomere 1 shortened and swollen, and epandrium with long basal lobe.

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