Studies and reports of District Museum Prague-East
Taxonomical Series 5 (1-2): 95-102, 2009

Contribution to the tribe Brachinini (Coleoptera: Carabidae) - II. Two new species and one redescription of genus *Brachinus* from Indonesia

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Taxonomy, new species, Coleoptera, Carabidae, Brachinini, *Brachinus*, Indonesia, Oriental region

Abstract. Two new species *Brachinus votrubai* sp. n. and *Brachinus jakli* sp. n. from Indonesia are described and illustrated. *Brachinus votrubai* sp. n. is compared with similar *Brachinus praestans* Andrewes, 1931. The latter is redescribed and illustrated. Male genitalia of existing males from type material: *Brachinus votrubai* sp. n. and *Brachinus praestans* Andrewes, 1931 are illustrated.

INTRODUCTION

In Indonesia, the genus *Brachinus* Weber, 1801 is represented by 5 species. The last complete revision of the tribe Brachinini was published by Chaudoir (1876). A work aimed at the Oriental region was published later by Jedlička (1964), but it included only a part of species. Descriptions of a majority of species and further published data are obsolete, male genitals were not studied. Figures are only schematic if any.

MATERIAL AND METHODS

Paratype of *Brachinus praestans* Andrewes, 1931 was loaned by the Natural History Museum, London. Type material of *Brachinus votrubai* sp. n. and *Brachinus jakli* sp. n. was taken from author´s collection. Photos of specimens used for the redescriptions were provided. The body length was measured from anterior margins of mandibles to posterior margin of elytra. The pronotum length was measured in central part. The elytra length was measured from the anterior margin of the scutellum to the posterior margin of the elytra. Exact label data are cited for the type material, separate lines on labels are indicated by „/“, separate labels by „//“. Autor´s remarks and comments are found in square brackets. [p] - the preceding data were printed; [hw] - the same was hand-written.

TAXONOMY

Brachinus praestans Andrewes, 1931
(Figs 1-4, 9)

Brachinus praestans Andrewes, 1931: 67.
Brachynus praestans: Landin, 1955: 471.

Type locality: „Sumatra“ (Andrewes, 1931) [= Indonesia, Sumatra Is.].

Type material. Paratype (♂) labelled: „Sumatra / A. Koller [p, white label] // Ex Coll. / Bruss. Mus. [p, white label] // Co- / type [p, white round label with green board] // Brachinus / praestans / cotype Andr. [hw] / H.E.Andrewes det. [p, white label] // H.E.Andrewes Coll. / B.M.1945-97 [p, white label]“.

Other material examined. „Indonesia, E. Jawa / Meru - Betiri Nat. Park / Sukamade env. 1.i.1997 / St. Jákl lgt., 300-600 m” //, 1 ♂, 2 ♀♀, coll. Jan Hrdlička.

Redescription of the male paratype. A large sized *Brachinus*. Body length 17.75 mm; 2.54 times longer than wide. Body convex (body length (17.75 mm) / max. dorso-ventral height of body (5.00 mm) = 3.55). Body and elytra black, appendages black-brown and yellow.

Head black with two brown-yellow spots behind eyes. Mentum and gula brown-yellow. Eyes large. Head with eyes narrower than pronotum (width of head (3.22 mm) / width of pronotum (3.30 mm) = 0.98). Head coarsely and sparsely irregular punctate and pubescent. Gula smooth and shiny. Mandibles in side-view with plurisetose scrobe.

Antennae long, narrow, brown. Antennomere 1 with sporadic long setae, 2-4 pubescence by shorter setae. 5-11 densely pubescent by short setae. Ratio of relative lengths of antennomeres from base to apex as follows: 0.60: 0.25: 1.00: 0.71: 0.65: 0.67: x: x: x: x: x. Ratio (length / largest width) of antennomeres from base to apex as follows: 1.98: 1.34: 5.47: 3.57: 3.53: 3.69: x: x: x: x: x. Elongation index of the antennae cannot be established in this specimen due to the damage.

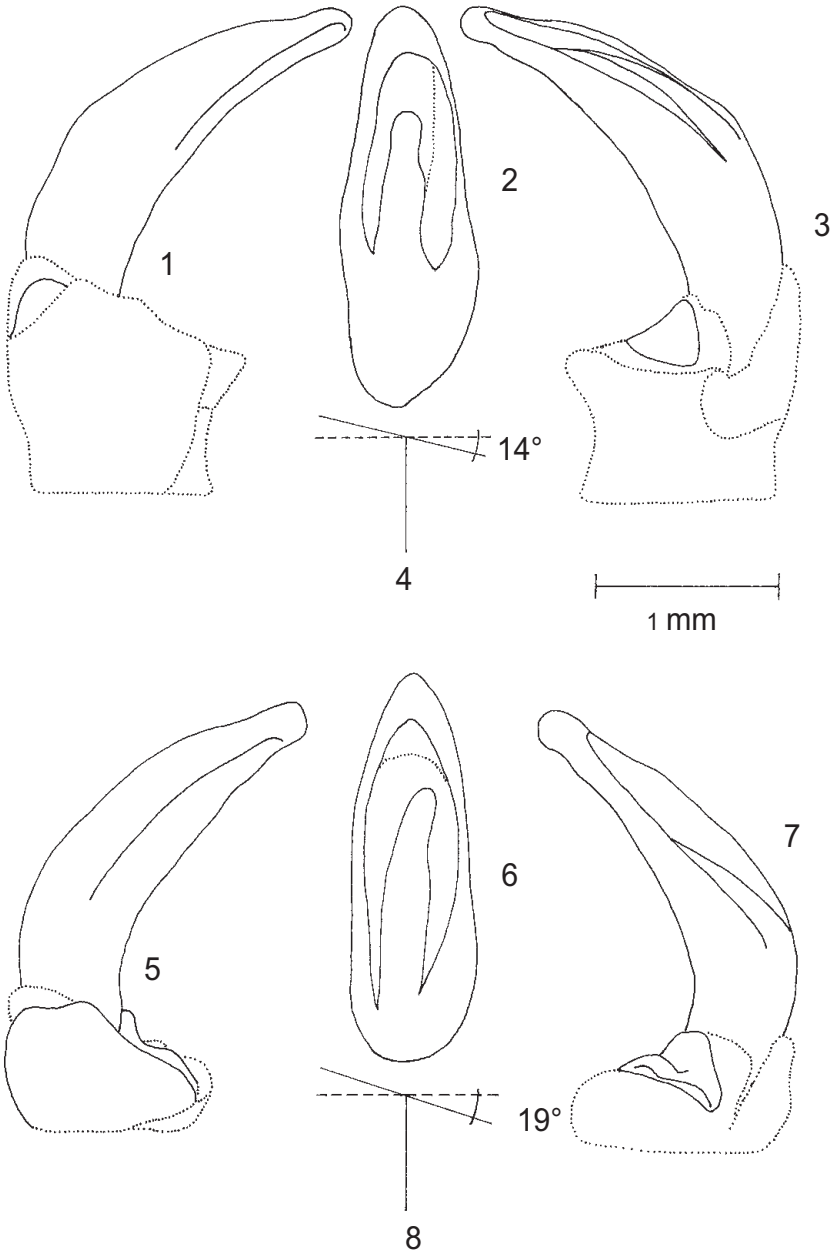
Maxillary palpus and labial palpus brown, relatively short, last article truncate apically. Ratio (length / maximum width) of last maxillar palpomere is 2.82.

Pronotum black. Sides of pronotum cordiform, max. width at the end of first quarter. Pronotum a little transverse (max. length (3.00 mm) / max. width (3.30 mm) = 0.91). Width of anterior margin 2.38 mm. Maximal width (at the end of first quarter of pronotum) 3.30 mm. Minimal width (at the beginning of last eighth of pronotum) 2.30 mm. Width of posterior margin 2.48 mm. Disc convex, little dull with microsculpture, with coarse punctuation, without pubescence (with very sporadic setae). Anterior and posterior margins of pronotum with dense rows of setae. Posterior angles of pronotum acute.

Ventral side of body. Mainly black, with punctuation and yellow setae. Prothorax and hind coxa brown. Front coxa, middle coxa and trochanter yellow.

Scutellum black.

Elytra black. Elytral disc convex, sides of elytra rounded, humeri distinct. Elytra



Figs 1-8. Aedeagus: 1-4- *Brachinus praestans* Andrewes, 1931 from Sumatra; 5-8- *Brachinus votrubai* sp. n. 1, 3, 5, 7- lateral view; 2, 6- dorsal view; 4, 8- deflection of the apical flattened part from the plane perpendicular to the aedeagus axis - frontal view.

approximately 1.57 times longer than together wide. Maximal width (approximately at the beginning of last third) 7.00 mm. Maximal length 11.00 mm. Each elytron with 7 rounded costae. Elytral disc with microsculpture (polygonal meshes). Elytra with uniform dense punctuation and yellow pubescence. Costae in central part of elytra without pubescence. Posterior margin of elytra with membranous fringe of short setae.

Legs long and narrow, brown, femora yellow. Femora sparsely pubescent, tibia and tarsi densely pubescent.

Male genitalia (Figs 1-4). Aedeagus long and robust. Approximately basal half of aedeagus has circular cross section, apical half slightly flattish dorso-ventrally. Flattish part is at angle of about 14° to plane perpendicular to aedeagus axis. The tip is rounded.

Distribution. Indonesia - Sumatra Island (Andrewes, 1931), new to Jawa Island. In my opinion the information about the location from Myanmar (Andrewes, 1947) and (Landin, 1955) does not seem to be reliable. I even think we can speak about a wrong determination due to not having included the study of aedeagae as well.

Remarks. Paratype is pinned (the original, corroded pin has been replaced) and damaged (lacking 5 antennomeres of right antenna, 7 antennomeres of left antenna, mesotarsus on left side). Mesotarsus on right side and hind leg on right side mounted with glue. Aedeagus mounted with glue.

Discussion. According to Andrewes (1931), the holotype has been stored in the Brussels Museum. I have not yet seen the holotype, but given the published information about the size, (Andrewes, 1931), it should be a female.

***Brachinus votrubai* sp. n.**
(Figs 5-8, 10)

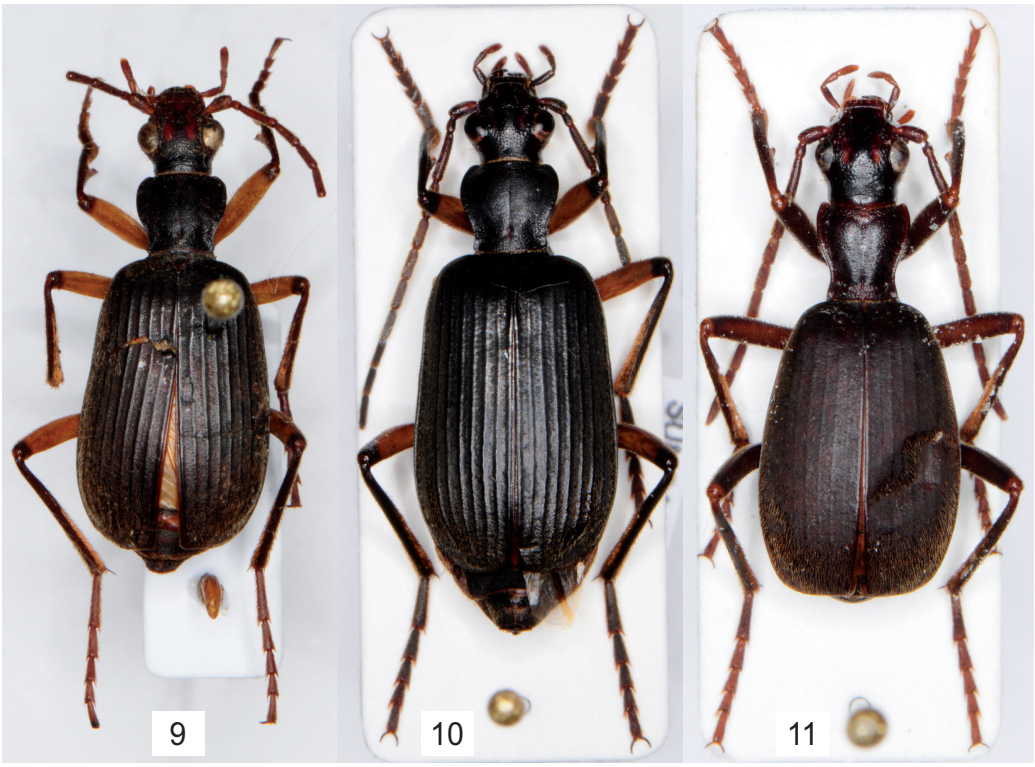
Type locality: Indonesia, Sumba Is., 20 km S. of Waingapu Wairinding.

Type material. Holotype (♂) labelled: „Sumba East / 20 km S of Waingapu / Wairinding, 300 m / 30.i.-2.ii.2001 Votruba lgt. [p, white label]". Paratype (1 ♀): the same data as holotype. Holotype is deposited in author´s collection, paratype in coll. National Museum of Prague.

Description of male holotype. A large sized *Brachinus*. Body length 17.18 mm; length 2.55 times its width. Body convex (body length (17.18 mm) / max. dorso-ventral height of body (5.00 mm) = 3.44). Body and elytra black, appendages black and yellow.

Head black with two brown spots behind eyes. Mentum and gula black-brown. Eyes large. Head with eyes narrower than pronotum (width of head (3.03 mm) / width of pronotum (3.30 mm) = 0.92). Head coarsely and sparsely irregularly punctate and pubescent. Gula smooth and shiny. Mandibles in side-view with plurisetose scrobe.

Antennae long, narrow. Antennomeres 1 black-brown with sporadic long setae, 2-4 black and pubescent, with shorter setae. 5-11 brown and densely pubescent, with short setae. Ratio of relative lengths of antennomeres from base to apex as follows: 0.57: 0.29: 1.00: 0.71: 0.60:



Figs 9-11. Habitus: 9- *Brachinus praestans* Andrewes, 1931; 10- *Brachinus votrubai* sp. n.; 11- *Brachinus jakli* sp. n.

0.62: 0.62: 0.59: 0.59: 0.56: 0.67. Ratio (length / largest width) of antennomeres from base to apex as follows: 2.08: 1.52: 5.00: 3.57: 3.00: 3.09: 3.09: 3.43: 3.68: 3.50: 4.72. Elongation index of the antennae (body length (17.18 mm) / antennal length (11.93 mm) = 1.44).

Maxillary palpus and labial palpus black, relatively short, last article brown, truncate apically. Ratio (length / maximum width) of last maxillar palpomere of 2.58.

Pronotum black. Sides of pronotum cordiform, max. width at the end of first quarter. Pronotum a little transverse (max. length (3.08 mm) / max. width (3.30 mm) = 0.93). Width of anterior margin 2.40 mm. Maximal width (at the end of first quarter of pronotum) 3.30 mm. Minimal width (at the beginning of last sixth of pronotum) 2.33 mm. Width of posterior margin 2.45 mm. Disc convex, little dull with microsculpture, with coarse punctuation, without pubescence (with very sporadic setae). Anterior and posterior margins of pronotum with dense rows of setae. Posterior angles of pronotum acute.

Ventral side of body. Mainly black, with punctuation and yellow setae. Middle coxa and trochanter brown.

Scutellum black.

Elytra black. Elytral disc convex, sides of elytra rounded, humeri distinct. Elytra

approximately 1.56 times longer than together wide. Maximal width (approximately at the beginning of last third) 6.75 mm. Maximal length 10.50 mm. Each elytron with 7 rounded costae. Elytral disc with microsculpture (polygonal meshes). Elytra with uniform dense punctuation and yellow pubescence. Central part of elytra without pubescence. Posterior margin of elytra with membranous fringe with short setae.

Legs long and narrow, black, femora yellow-red. Femora sparsely pubescent, tibia and tarsi densely pubescent.

Male genitalia (Figs 5-8). Aedeagus long and robust. Approximately basal third of aedeagus has circular cross section, apical two third slightly flattish dorso-ventrally. Flattish part is at angle of about 19° to plane perpendicular to aedeagus axis. The tip is pointed.

Female. Body length 17.35 mm; 2.38 times longer than wide. Body convex (body length (17.35 mm) / max. dorso-ventral height of body (5.40 mm) = 3.21). Head with eyes narrower than pronotum (width of head (3.15 mm) / width of pronotum (3.45 mm) = 0.91). Ratio of relative lengths of antennomeres from base to apex as follows: 0.58: 0.26: 1.00: 0.71: 0.64: 0.66: 0.64: 0.60: 0.60: 0.57: 0.67. Ratio (length / largest width) of antennomeres from base to apex as follows: 2.71: 1.30: 4.66: 3.31: 3.00: 3.09: 3.18: 3.26: 3.50: 3.32: 3.66. Elongation index of the antennae (body length (17.35 mm) / antennal length (11.34 mm) = 1.53). Ratio (length / maximum width) of last maxillar palpomere is 2.36. Pronotum a little transverse (max. length (3.10 mm) / max. width (3.45 mm) = 0.90). Elytra approximately 1.44 times longer than together wide.

Differential diagnosis. *Brachinus votrubai* sp. n. is very similar to *Brachinus praestans* Andrewes, 1931. *Brachinus votrubai* sp. n. is darker, elytra more parallel and without pubescence in central part. Aedeagus pointed.

Biology. It was caught at night, on ground, near light source (lamp), in one of many wooded gorges in the area of savanna.

Name derivation. This species is dedicated to its collector, Petr Votruba (Prague, CZ), a well-known specialist in Cicindelidae.

***Brachinus jakli* sp. n.**
(Fig. 11)

Type locality: Indonesia, Sumba Is., Luku - Melolo N. P.

Type material. Holotype (♀) labelled: „Indonesia - Sumba Is. / Luku - Melolo N.P. / 7.-9.i.2001 / St. Jákl lgt. [p, white label]". Holotype is deposited in author's collection.

Description of female holotype. A medium sized *Brachinus*. Body length 13.38 mm; 2.43 times longer than wide. Body convex (body length (13.38 mm) / max. dorso-ventral height of body (3.75 mm) = 3.57). Body and elytra black, appendages brown.

Head black with two brown spots behind eyes. Mentum and gula brown. Eyes large. Head with eyes markedly wider than pronotum (width of head (2.53 mm) / width of pronotum (2.20 mm) = 1.15). Head sparsely pubescent. Frons glabrous. Posterior part sparsely punctate. Gula smooth and shiny. Mandibles in side-view with plurisetose scrobe.

Antennae long, narrow, brown. Antennomeres 1 with sporadic long setae, 2-4 pubescence by shorter setae. 5-11 densely pubescence by short setae. Ratio of relative lengths of antennomeres from base to apex as follows: 0.60: 0.17: 1.00: 0.67: 0.60: 0.58: 0.58: 0.54: 0.54: 0.51: 0.67. Ratio (length / largest width) of antennomeres from base to apex as follows: 1.93: 0.77: 4.18: 2.82: 2.52: 2.42: 2.67: 2.50: 2.50: 2.33: 3.32. Elongation index of the antennae (body length (13.38 mm) / antennal length (8.93 mm) = 1.50).

Maxillary palpus and labial palpus brown, relatively short, last article truncate apically. Ratio (length / most width) of last maxillar palpomere is 2.39.

Pronotum black. Sides of pronotum cordiform, max. width at the end of first seventh. Pronotum longer than wide (max. length (2.48 mm) / max. width (2.20 mm) = 1.13). Width of anterior margin 2.13 mm. Maximal width (at the end of first seventh of pronotum) 2.20 mm. Minimal width (at the beginning of last fifth of pronotum) 1.68 mm. Width of posterior margin 1.85 mm. Disc convex, little dull with microsculpture, with punctuation, with yellow pubescence. Anterior and posterior margins of pronotum with dense rows of setae. Posterior angles of pronotum acute.

Ventral side of body. Mainly black, with punctuation and yellow setae. Prothorax, front coxa, middle coxa, hind coxa and trochanter brown.

Scutellum black.

Elytra black, epipleura brown. Elytral disc convex, sides of elytra rounded, humeri absent. Elytra approximately 1.44 times longer than together wide. Maximal width (approximately between half and at the beginning of last third) 5.50 mm. Maximal length 7.90 mm. Costae indistinct. Elytral disc with microsculpture (polygonal meshes). Elytra with uniform dense punctuation and yellow pubescence. Posterior margin of elytra with membranous fringe with short setae.

Legs long and narrow, brown. Femora sparsely pubescent, tibia and tarsi densely pubescent.

Male. Unknown.

Differential diagnosis. *Brachinus jakli* sp. n. is similar to *Brachinus magyari* Jedlička, 1960. *Brachinus jakli* sp. n. is smaller, elytra more convex, without humeri. Appendages darker.

Biology. It was caught at night, on ground, in big valley of the river.

Name derivation. This species is dedicated to its collector, Stanislav Jákl (Prague, CZ), a well-known specialist in Cetoniidae.

ACKNOWLEDGEMENTS. Sincere thanks are given to Max Barclay and Conrad Gillett (Natural History Museum, London) for loaning type material for study. I am also grateful to Stanislav Jákl and Petr Votruba (both Prague, Czech Republic) for giving me this material. Special thanks are extended to Michal Hoskovec (Prague, Czech

Republic) for his digital photography of the habituses.

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Received: 10.2.2009
Accepted: 28.2.2009