

New species of the family Rhynchitidae (Coleoptera) from Asia and Africa

Andrei LEGALOV

Siberian Zoological Museum,
Institute of Animal Systematics and Ecology, SB RAS,
Frunze street-11, Novosibirsk 630091, Russia
e-mail: legalov@ngs.ru

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Abstract. Five new species of the family Rhynchitidae from Africa and Asia are described and illustrated. *Pseudomesauletes (Metallauletes) marshalli* sp. nov. from Kenya looks like *P. (M.) kuntzeni* (Voss, 1922), *Deporaus (Deporaus) hengjanensis* sp. nov. from Shanxi is similar to *D. (D.) betulae* (Linnaeus, 1758), *Involvulus hartmanni* sp. nov. from Nepal looks like *I. gemmus* (Semenov-Tian-Shanskij et Ter-Minassian, 1937), *Cartorhynchites (Cartorhynchites) baliensis* sp. nov. from Indonesia is like to *C. (C.) nantouensis* Legalov, 2007 and *Auletomorphus (Auletomorphus) habashanensis* sp. nov. from China is similar to *A. (A.) tonkinensis* (Voss, 1924).

INTRODUCTION

The family Rhynchitidae has about 2000 species, being small group within the superfamily Curculionoidea (Legalov, 2006a). Rhynchitidae emerged in Early Cretaceous (Legalov 2010b). This family consists of species rolling leaves into tubes for the larvae development as well as of species using other substrates for the oviposition (Legalov, 2004a).

The work presented here continues the author's research of family Rhynchitidae (Legalov 2001, 2003a-b, 2004a-d, 2006a-d, 2007, 2009a-c, 2010a-d; Legalov & Korotyaev 2006) from Asia and Africa.

MATERIAL AND METHODS

Types are stored in the following collections and museums:

- NHRS Naturhistoriska riksmuseet (Swedish Museum of Natural History), Stockholm, Sweden;
- NMPC National Museum, Prague, Czech Republic;
- NME Naturkundemuseum, Erfurt, Germany;
- RDP Radek Dunda, private collection, Prague, Czech Republic;
- SZMN Siberian Zoological Museum, Institute of Animal Systematics and Ecology, Novosibirsk, Russia.

TAXONOMY

Tribe Auletini Desbrochers des Loges, 1908 Subtribe Pseudomesauletina Legalov, 2003

Genus *Pseudomesauletes* Legalov, 2001 Subgenus *Metallauletes* Legalov, 2007

Pseudomesauletes (Metallauletes) marshalli sp. nov. (Figs 1, 7)

Type material. Holotype (♂): [Kenya] “Aberdara, 2900 m, 11.7.48, A. Holm”, (NHRS).

Description. Body bronze, with long adpressed light setae. Antennae, tibiae and tarsi yellowish-brown. Length of body: 3.6 mm.

Male. Rostrum long, 5.0 times longer than wide, 1.29 times longer than pronotum, weakly curved, widened to the apex, densely punctate, flattened. Antennae located in the middle of rostrum. Eyes not large, strongly convex. Frons wide, strongly convex, finely punctate. Temples short and straight.

Antennae long, reaching middle of pronotum. Scapus and 1st segment of funicle oval. 1st segment hardly narrower than scapus. 2nd-4th segments long-oval, narrower. 2nd segment longer than 1st segment. 3rd segment little shorter than 2nd segment. 4th segment shorter than 3rd segment. 5th segment oval, wider and shorter than 4th segment. 6th segment almost rounded. 7th segment transversal, wider than 6th segment. Clava wide, almost compact, pointed, shorter than funicle. 1st and 2nd segments transversal. 3rd segment stilliform, shorter than previous segments.

Pronotum almost campaniform, length/width = 0.92, narrowed to basis and apex, with rounded sides. Disk convex, small and densely punctate. Greatest width in the middle. Scutellum trapezoid.

Elytra almost rectangular, elongated, 1.4 times longer than wide. Greatest width in the middle. Humeri weakly smoothed. Striae reduced. Points large and deep. Intervals weakly convex. Apex of elytra with sex patches.

Thorax small and sparsely punctate. Metepisternum narrow.

Abdomen convex. 1st and 2nd ventrites wide. 2nd ventrite little wider than 1st ventrite. 3rd and 4th ventrites narrower than 2nd ventrite. 5th ventrite narrow, narrower than 4th ventrite. Pygidium convex, punctate.

Legs long. Femora widened. Tibiae almost straight, weakly widened to apex. Protibiae narrow and long. Tarsi long. Protarsi hardly more flattened and longer than meso- and metatarsi. 1st tarsal segment long-triangular. 2nd segment wide-triangular. 3rd segment bilobed. Clausal segment elongated. Claws with long teeth.

Female. Unknown.

Differential diagnosis. The new species is similar to *Pseudomesauletes (Metallauletes) kuntzeni* (Voss, 1922) but differs by its longer rostrum, rounded sides of pronotum, smaller eyes, bronze body and armament of the endophallus.

Etymology. The new species is named in honour of G. A. K. Marshall.

Tribe Isotheini Scudder, 1893
Subtribe Deporaina Voss, 1929

Genus *Deporaus* Samouelle, 1819
Subgenus *Deporaus* s. str.

***Deporaus (Deporaus) hengjanensis* sp. nov.**
(Figs 2-3, 8)

Type material. Holotype (♂): “China, W Shanxi, 9.VI.2000, 37.7 N, 111.6 E, Lüliang Shan, road Fangshan-Jiaocheng, Hengjan env., 1000 m, Jaroslav Turna”, (NMPC). Paratypes (4 ♀♀): the same data, (RDP, ZSMN).

Description. Body black, lustrous, without metallic sheen, with short, pale, dense suberect setae. Mandibles, epistome, and claws brown. Length of body: 4.7-5.3 mm.

Male. Rostrum short, 2.0 times longer than wide, 1.79 times shorter than pronotum, thick, nearly straight, strongly widened toward apex, with weak carina, punctate. Antennae attached in middle of rostrum. Eyes large, convex. Frons wide, nearly flat, punctate, with depression at base. Temples slightly shorter than eyes, densely punctate. Vertex convex, finely and densely punctate. Neck constriction clearly pronounced.

Antennae medium-sized, nearly reaching pronotum. Scape and 1st funicular segment widely oval. 2nd and 3rd segments elongate. 2nd segment of equal length to 1st segment. 3rd segment little shorter than 2 segment. 4th and 5th segments short oval. 6th and 7th segments oblong-trapeziform. 7th segment wider than 6th segment. Club wide, nearly compact, shorter than funicle. 1st segment longer than 2nd segment. 3rd segment pointed, slightly longer than 1st segment.

Pronotum almost campaniform, of equal length and width, with weakly rounded sides, weakly narrowed to the basis and apex. Disk convex, densely punctate. Greatest width at middle. Scutellum trapezoid.

Elytra nearly rectangular, 1.39 times longer than wide, widest behind middle. Humeri weakly smoothed. Intervals convex, with row of punctures, weakly wrinkled. Striae distinct and rather wide. 9th and 10th striae merging in apical part of elytra.

Prothorax rugose-punctate. Sides of mesothorax delicately punctate. Mesepisternum finely punctate. Metepisternum narrow, coarsely punctate. Metasternum sparsely and finely punctate.

Abdomen convex, flattened medially, with dense double punctation. 1st and 2nd ventrites wide. 3rd ventrite slightly narrower than 2nd ventrite. 4th ventrite narrower than 3rd ventrite. 5th ventrite narrow, narrower than 4th ventrite. Pygidium and propygidium densely punctate.

Legs medium-sized. Femora thickened. Profemora strongly thickened, without finely serrate inner margin. Tibiae long. Protibiae nearly straight, weakly bisinuate along inner margin, narrower, without mucro. Mesotibiae wider, flattened, widened toward apex. Metatibiae thicker, finely serrate along inner margin. Tarsi long. 1st segment elongate. 2nd segment wide and triangular. 3rd segment bilobed. Claw-segment elongate, toothed.

Length of body: 4.9 mm.

Female. Rostrum longer and more strongly flattened. Eyes less convex. Metafemora not widened.

Differential diagnosis. The new species is similar to *Deporaus* (*Deporaus*) *betulae* (Linnaeus, 1758) but differs by the more dense setae on its body, narrower metafemora without finely serrate inner margin in males and armament of the endophallus in males; the female differs by a narrower body and longer rostrum.

Etymology. The name is derived from the location “Hengjan” - “hengjanensis”.

Tribe Rhynchitini Gistel, 1848
Subtribe Rhynchitina Gistel, 1848

***Involvulus hartmanni* sp. nov.**

(Figs 4, 9)

Type material. Holotype (♂): “E Nepal, Dhankuta China, Arun Valley, SE des Makalu Mumbug, 3200-3700 m, vi.1980, C. Holzschuh”, (NME). Paratype (1 ♂): the same data, (SZMN); (1 ♂, 1 ♀): “Nepal, P.: Karnali, D.: Jumia, Gothichaur valley, around camp, 2950 m, 29.v.2007, M. Hartmann”, (NME).

Description. Body black. Elytra copper-bronze. Body with rare light semierect setae. Length of body: 6.3 mm.

Male. Rostrum of the average size, little shorter than pronotum, weakly curved, weakly widened to the apex, punctate, with carina. Antennae attached behind the middle rostrum. Eyes large, weakly convex. Frons flat, wide, densely punctate, in first third pressed. Vertex convex, densely punctate. Temples long, weakly transversally wrinkled.

Antennae thin and long, reaching pronotum middle. Scapus and 1st segment of funicle oval, of equal length. 2nd-4th segments elongated. 2nd segment longer than 1st segment. 3rd segment shorter than 2nd segment. 4th segment shorter than 3rd segment. 5th segment oval. 6th and 7th segments trapezoid. Clava wide, not compact. 1st and 2nd segments almost trapezoid. 1st segment hardly longer than 2nd segment. 3rd segment tear-shaped, longer than 1st segment.

Pronotum campaniform, of equal length and width. Sides weakly rounded. Disk convex, rough rugose-punctate. Greatest width before middle. Scutellum trapezoid, wide.

Elytra almost rectangular, 1.35-1.44 times longer than wide. Greatest width behind middle. Humeri weakly convex. Intervals wide, convex, with one row of small points. Striae wide. Points in them large and deep.

Prothorax punctate. Mesothorax and mesepisternum densely punctate. Metathorax sparsely punctate. Metepisternum sparsely punctate. Abdomen convex, densely rugose-punctate. 1st and 2nd ventrites wide. 3rd and 4th ventrites narrower. 5th ventrite very narrow. Pygidium convex, punctate.

Legs long. Femora widened. Tibiae almost straight, long, widened to apex. Protibiae narrower than meso- and metatibiae. Tarsi long. 1st segment triangular, elongated. 2nd segment wide-triangular. 3rd segment bilobed. Clausal segment elongated. Claws with long teeth.

Length of body: 4.9-5.6 mm.

Female. Rostrum wider and sparsely punctate, with antennae attached closer to the middle.

Elytra more strongly widened for ?? the middle, 1.33 times longer than wide.

Differential diagnosis. The new species is similar to *Involvulus gemmus* (Semenov-Tian-Shanskij et Ter-Minassian, 1937) but differs by its narrower body, dense and more rough punctate pronotum, and shape of sclerites of the endophallus.

Etymology. This new species is named in honour of M. Hartmann.

Genus *Cartorhynchites* Voss, 1958

Subgenus *Cartorhynchites* s. str.

***Cartorhynchites (Cartorhynchites) baliensis* sp. nov.**

(Figs 5, 10)

Type material. Holotype (♂): "Indonesia, Bali Isl., Bedugul env., rainforest, 1600 m, 25-26.vi.1998, S. Jákl", (NMPC).

Description. Body blue-green, with thin light erect setae. Head, pronotum and elytra with golden lustre. Antennae and legs yellow-brown. Length of body: 4.5 mm.

Male. Rostrum short, 2.88 times longer than wide, 1.13 times shorter than pronotum, weakly curved, weakly widened to apex, small and densely punctate. Antennae located behind the rostrum middle. Eyes large, convex. Frons wide, weak convex, weakly and sparsely rugose-punctate. Temples straight, weakly elongated.

Antennae long, reaching pronotum. Scapus and 1st segment of funicle elongated-oval, of equal length. 2nd-7th segments elongated-narrow. 2nd segment longer than 1st segment. 3rd segment shorter than 2nd segment. 4th segment shorter than 3rd segment. 5th segment hardly shorter than 4th segment. 6th and 7th segments approximately of equal length. Clava wide, not compact, pointed, shorter than funicle. 1st and 2nd elongated. 3rd segment tear-shaped, considerable shorter than 2nd segment.

Pronotum almost campaniform, of equal length and width, with weakly rounded sides, weakly narrowed to the basis and apex. Disk convex, densely punctate. Greatest width on middle. Scutellum trapezoid.

Elytra almost rectangular, elongated, 1.29 times longer than wide. Greatest width behind the middle. Humeri weakly smoothed. Striae distinct. Points dense. Intervals convex, punctate. 9th striae merge with 10th striae on middle of the elytra.

Thorax small punctate. Metepisternum narrow.

Abdomen convex, small rugose-punctate. 1st and 2nd ventrites wide, approximately of equal length. 3rd and 4th ventrites narrow, narrower than 2nd ventrite. 5th ventrite hardly wider than 4th ventrite. Pygidium convex, punctate.

Legs long. Femora widened. Tibiae almost straight, weakly widened to apex. Protibiae narrow and long. Tarsi long. 1st segment elongated. 2nd segment wide-triangular, weakly flattened. 3rd segment bilobed. Clausal segment elongated. Claws with long teeth.

Female. Unknown.

Differential diagnosis. The new species is similar to *Cartorhynchites (Cartorhynchoides) nantouensis* Legalov, 2007, but differs by its body with metal lustre, yellow legs, head,

pronotum and elytra with golden lustre, body with long erect setae and almost reduced sclerite of the endophallus.

Etymology. The name is derived from the location “Bali” - “baliensis”.

Genus *Auletomorphus* Voss, 1923

Subgenus *Auletomorphus* s. str.

***Auletomorphus (Auletomorphus) habashanensis* sp. nov.**

(Figs 6, 11)

Type material. Holotype (♂): “Yunnan, 2000-3000 m, 27.20 N, 100.11 E, Habashan Mts., SE slope, 10-13.vii.1992, Vit Kuban leg.”, (NMPC).

Description. Body black with sparse dark semierect setae. Meso- and metepisternum with stains from white adpressed setae. Head with bluish lustre. Elytra with golden lustre. First half of meso- and metafemora yellow-brown. Abdomen brown. Length of body: 3.8 mm.

Male. Rostrum long, 8.25 times longer than wide, 1.38 times longer than pronotum, weakly curved, weakly widened to the apex, punctate. Antennae attached before the rostrum base.

Eyes large, convex. Frons convex, wide, almost smooth. Vertex convex, almost smooth. Temples short, weakly transversally wrinkled.

Antennae thin and long, reaching pronotum middle. Scapus and 1st segment of funicle oval, of equal length. 2nd-5th segments elongated trapezoid. 2nd segment shorter than 1st segment. 3rd segment longer than 2nd segment. 4th segment longer than 3rd segment. 5th segment shorter than 4th segment. 6th segment oval, wider and shorter than 5th segment. 7th segment almost rounded. Clava wide, not compact. 1st and 2nd segments almost trapezoid. 1st segment longer than 2nd segment. 3rd segment tear-shaped, longer than 1st segment.

Pronotum campaniform, almost of equal width and length. Sides weakly rounded. Disk convex, weakly rugose-punctate. Greatest width in middle. Scutellum trapezoid, wide.

Elytra almost rectangular, 1.33 times longer than wide. Greatest width at humeri behind middle. Humeri weakly convex. Intervals wide, convex. Striae wide. Points in them large and deep.

Prothorax punctate. Mesothorax and mesepisternum densely punctate. Metathorax sparsely punctate. Metepisternum densely punctate.

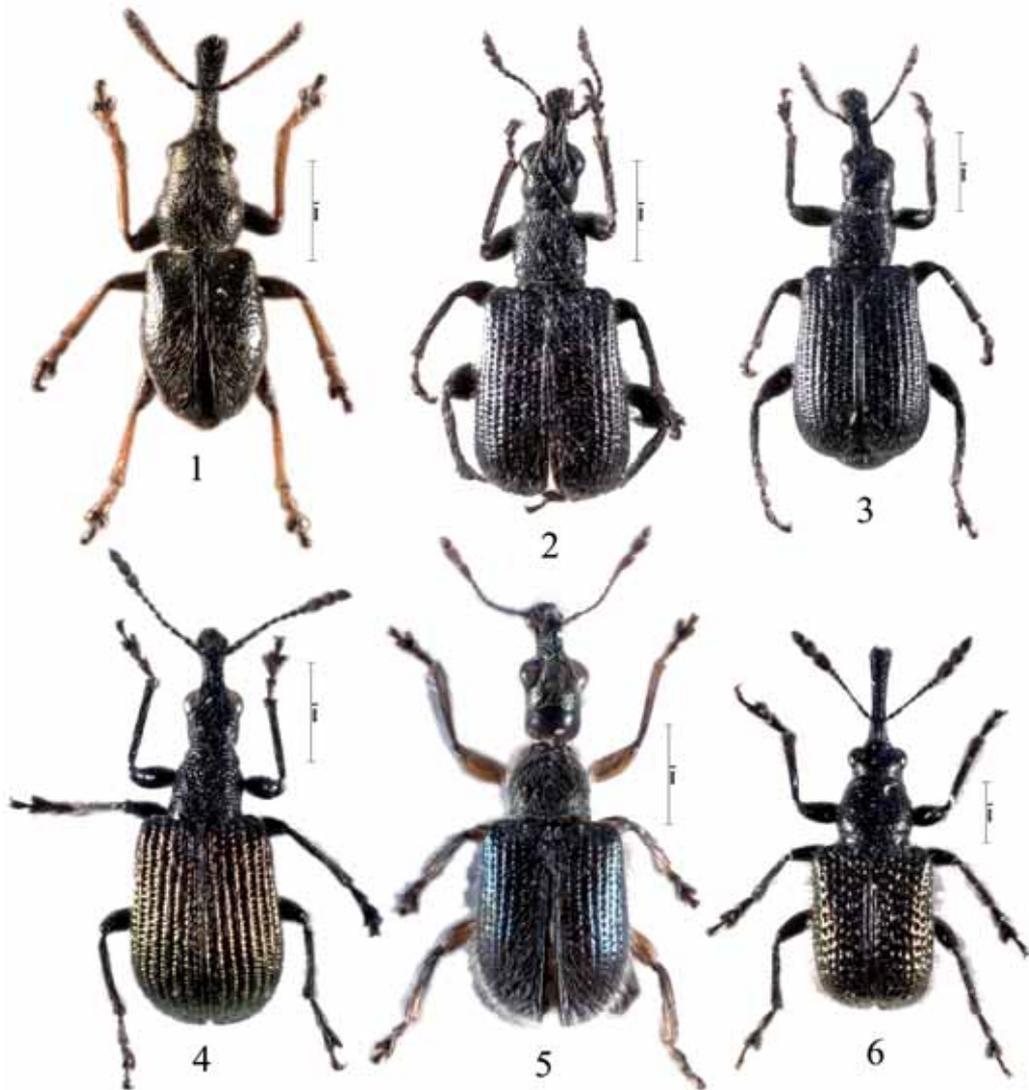
Abdomen convex, finely punctate. 1st and 2nd ventrites wide. 3rd and 4th ventrites narrower. 5th ventrite very narrow. Pygidium convex, sparsely punctate.

Legs long. Femora widened. Tibiae almost straight, long, wide, widened to apex. Tarsi long. 1st segment triangular. 2nd segment wide-triangular. 3rd segment bilobed. Clausal segment elongated. Claws with long teeth.

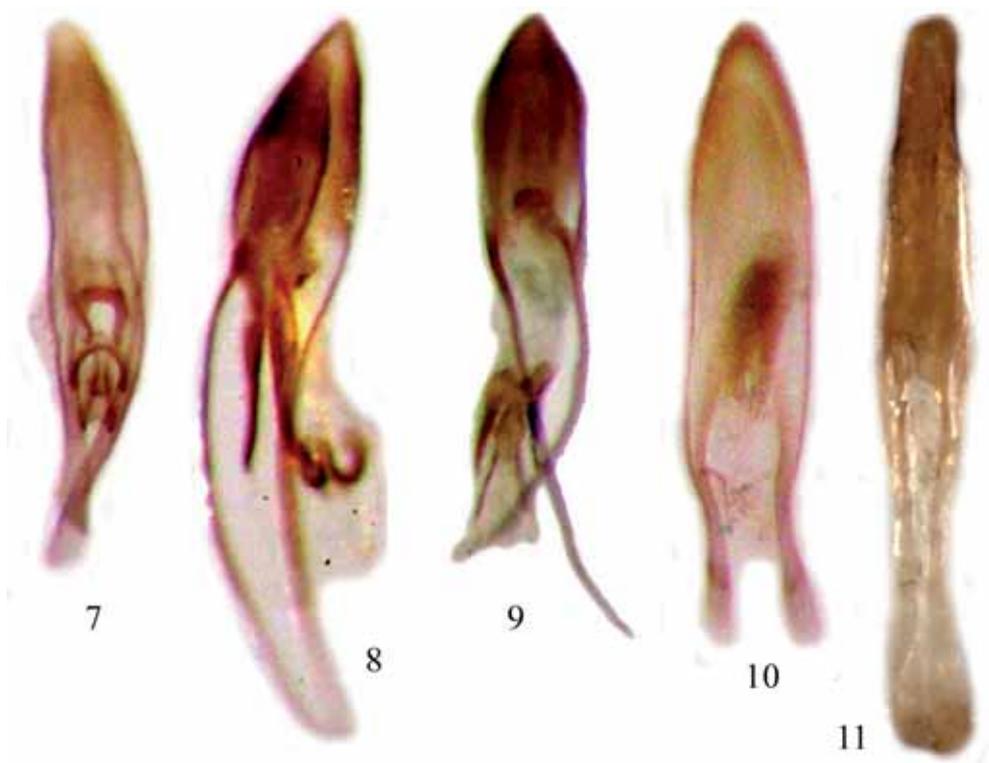
Female. Unknown.

Differential diagnosis. The new species is similar to *Auletomorphus (Auletomorphus) tonkinensis* (Voss, 1924), but differs by the base of meso- and metafemora red-brown and abdomen brown.

Etymology. The name is derived from the location “Habashan”- “habashanensis”.



Figs 1-6. Rhynchitidae gen. spp.: 1- *Pseudomesauletes marshalli* sp. nov. (habitus, male, dorsal view, holotype); 2- *Deporaus hengjanensis* sp. nov. (habitus, male, dorsal view, holotype); 3- *D. hengjanensis* sp. nov. (habitus, female, dorsal view, paratype); 4- *Involvulus hartmanni* sp. nov. (habitus, male, dorsal view, holotype); 5- *Cartorhynchites baliensis* sp. nov. (habitus, male, dorsal view, holotype); 6- *Auletomorphus habashanensis* sp. nov. (habitus, male, dorsal view, holotype).



Figs 7-11. Rhynchitidae gen. spp.: 7- *Pseudomesauletes marshalli* sp. nov. (dorsal view, holotype); 8- *Deporaus hengjanensis* sp. nov. (dorsal view, holotype); 9- *Involvulus hartmanni* sp. nov. (dorsal view, holotype); 10- *Cartorhynchites baliensis* sp. nov. (dorsal view, holotype); 11- *Auletomorphus habashanensis* sp. nov. (dorsal view, holotype).

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