

Two New Species of the Tribe Rutelini, Subtribe Didrepanephorina (Coleoptera, Scarabaeidae, Rutelinae) from Vietnam and India

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Abstract Two new ruteline species of the tribe Rutelini, subtribe Didrepanephorina are described: *Didrepanephorus vietnamicus* sp. nov. from Vietnam and *Kibakoganea costata* sp. nov. from India.

In this paper, we describe two new species belonging to the subtribe Didrepanephorina, tribe Rutelini, one each from the genera *Didrepanephorus* WOOD-MASON, 1878 and *Kibakoganea* NAGAI, 1984.

To date, 18 species-group taxa are known from the genus *Didrepanephorus* (MURAMOTO, 2003, 2005). Many species of this genus almost lack hairs on the upper surface of the body, but the new species described here is characterized by fine hairs on the upper body surface. Only three species are known to have this characteristic, i. e., *D. bifalcifer* WOOD-MASON, 1878, the type species from Assam, *D. mucronatus* ARROW, 1921 from Laos, and *D. arnaudi* MURAMOTO, 2003 from southern Vietnam.

About 20 species-group taxa of the genus *Kibakoganea* are known from China, Vietnam, Thailand, Laos, Myanmar, and India (MIYAKE & MURAMOTO, 1992, 2003; NAGAI, 2004). *Kibakoganea dohertyi* (OHAUS, 1905) has been widely recorded from Vietnam to Myanmar, but the remaining species-group taxa have been mostly recorded from relatively narrow and limited areas, and *K. kraatzi miyakei* MURAMOTO, 2005 is the only recorded member of the genus from India. Here we describe the second representative of this genus from India.

The holotypes designated in this study will be deposited in the collection of the Department of Zoology, National Museum of Nature and Science, Tsukuba, Japan (NSMT).

Didrepanephorus vietnamicus sp. nov.

(Figs. 1, 2 & 11)

Description. Male. Body oval, moderately convex. Dorsal and ventral surfaces light brown to light reddish brown, but head and scutellum blackish brown (posterior portion of pronotum sometimes same in color as scutellum), antennae dark reddish brown, mandibles black, femora and tibiae light brown, tarsi dark reddish to blackish brown, basal half of 5th segment of protarsi light reddish brown; slightly shining dorsally, weakly shining ventrally. Dorsal side rather densely covered with light brown hairs, the hairs on frons longer than those on pronotum; elytra with some long erect hairs near scutellum; ventral side densely covered with light brown hairs, which are much longer than those on dorsum.

Clypeus trapezoidal, widest at base, with lateral margins slightly sinuate and convergent apicad, and with anterior margin almost rectilinear, finely and sparsely punctate, but almost impunctate on apical portion; frons slightly depressed in reverse triangle just behind clypeus, coarsely and somewhat densely punctate. Eyes moderate in size, with distance between eyes 3.0 times as long as the diameter of an eye; eye canthus less protruding than eye. Mandibles not so long, curved and upward, with large

upper tooth near base in general, but the size of mandibles varying from very small to quite large.

Pronotum gently convex, widest slightly before middle; lateral margins slightly sinuate in front of the widest point, and nearly straight in the rear, posterior margin sinuate on both sides of middle, marginate except for in front of scutellum; anterior angles protruded, but not so sharp, posterior angles subrectangle; surface densely and somewhat rugosely punctate.

Scutellum widely triangular, about twice as wide as long, arcuate at sides, rounded at apex, rather densely covered with irregular-sized punctures.

Elytra longer than wide, depressed between humeral callus and scutellum, strongly and abruptly declined behind posterior calli, the surface rather densely covered with ocular punctures.

Pygidium moderately convex, the lateral margins strongly marginate almost along full length.

Prosternal process minute; metasternum with a small process which is somewhat angulately produced downward at posterior middle; 2nd to 4th abdominal sternites abbreviated.

Male genitalia. Parameres asymmetrical, fused to each other near base; right paramere somewhat narrow, expanding at base and front but narrowing at center; left paramere clearly wider than right one, with a thin and elongate protruding portion inside, and the width narrowing on basal one-third and spreading downward near the base.

F e m a l e. Different from male in the following points: pronotum and elytra sometimes covered with dull, dark, irregular-shaped mottles; dorsal surface more strongly and more coarsely punctate, especially on posterior part of pronotum; anterior margin of clypeus bilobed and reflexed upward; mandibles short; prosternal process absent; posterior portion of metasternum almost flattened, lacking process; abdomen normal in shape.

Length: ♂: 19.0–28.0 mm (including mandibles), 17.0–22.0 mm (excluding mandibles); ♀: 20.5–22.0 mm.

Distribution. Central and southern Vietnam.

Type series. Holotype (NSMT): ♂, Mt. Axan, alt. 1,300 m, Tay Giang, Quang Nam, Vietnam, V.2018, native collector leg. Paratypes: 6 ♂♂, same data as for the holotype; 1 ♂, Bao Loc, Lam Dong Prov., S. Vietnam, IV.2017, native collector leg.; 2 ♂♂, Mt. Axan, alt. 1,300 m, Tay Giang, Quang Nam, Vietnam, IV.2017, native collector leg.; 1 ♂, Mt. Ngoc Linh, Kon Tum Prov., C. Vietnam, V.2016, native collector leg.; 1 ♂, 1 ♀, Tay Giang, alt. 1,300 m, Quang Nam Prov., IV.2017, native collector leg.; 1 ♂, 3 ♀♀, Mt. Bach Ma, alt. 1400 m, Thua Thien Hue, C. Vietnam, III.2017, native collector leg.; 1 ♂, Maeg Cach, alt. 1,200 m, Kon Prong Dist., Kon Tum Prov., 26.III–15.IV.2005, S. Ryabov leg.

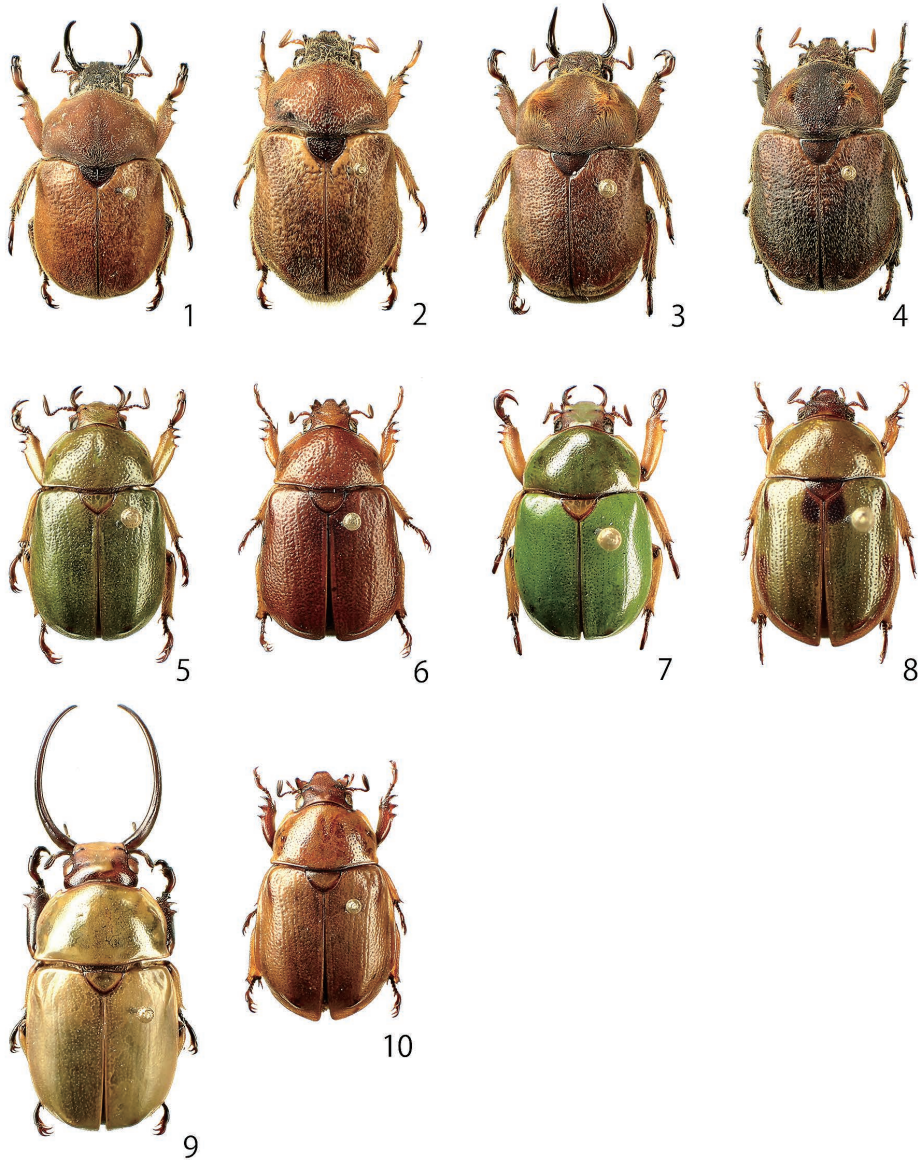
Etymology. This new species is named after the country where the type specimens were collected.

Remarks. This new species resembles *Didrepanephorus arnaudi* from southern Vietnam, but can be separated from the latter by the following points: 1) disk of pronotum rounded and without tufted hairs, (with a conspicuous pair of tufted hairs in *D. arnaudi*); 2) apical portion of clypeus smooth and almost impunctate, (sparsely punctate in *D. arnaudi*); and 3) inner claws of protarsi in male very robust and long, about three times as thick as outer claws (somewhat robust, not more than twice as thick as outer claws in *D. arnaudi*).

Kibakoganea costata sp. nov.

(Figs. 5, 6 & 13)

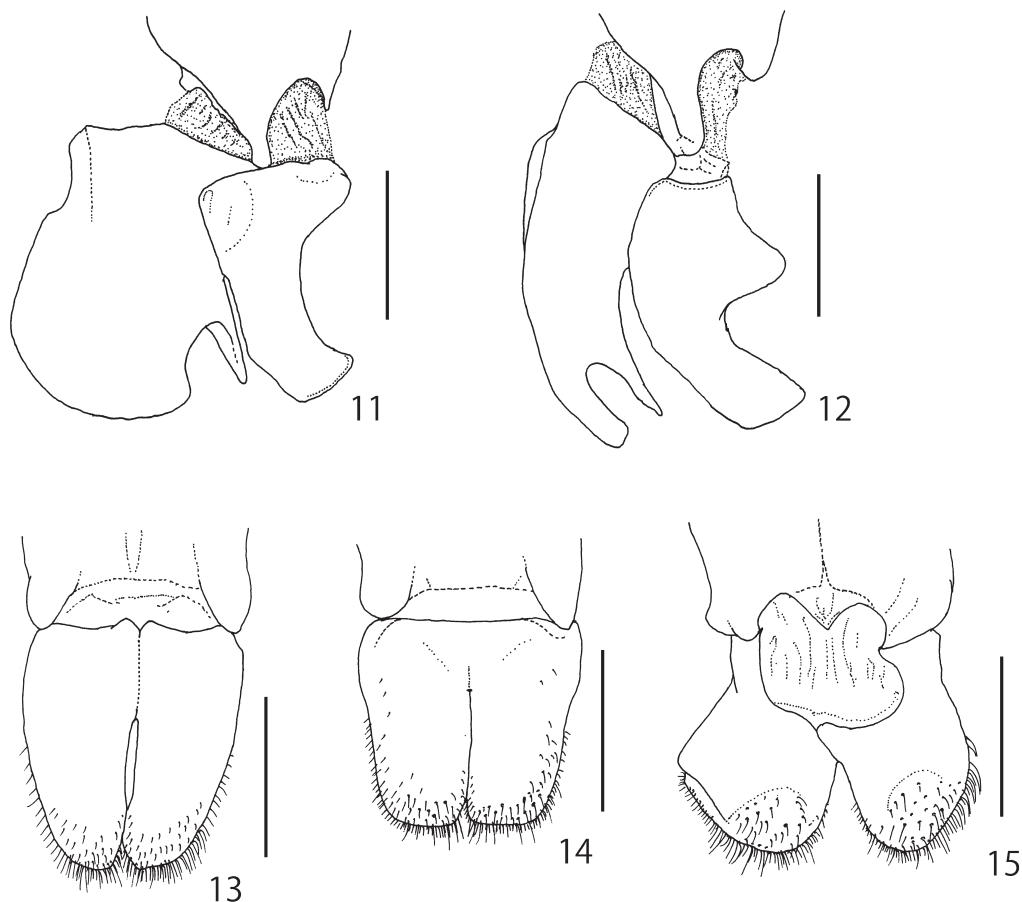
Description. *M a l e.* Body moderately convex. Dorsal surface yellowish green, but head, scutellum, and portions along elytral suture more yellowish, femora and tibiae pale yellowish brown, anten-



Figs. 1–10. *Didrepanephorus* spp. and *Kibakoganea* spp., dorsal habitus. — 1 & 2, *Didrepanephorus vietnamicus* sp. nov.; 3 & 4, *D. arnaudi* MURAMOTO, 2003; 5 & 6, *Kibakoganea costata* sp. nov.; 7 & 8, *K. yoshitomii* NAGAI, 2003; 9 & 10, *K. kraatzi miyakei* MURAMOTO, 2005. — 1 & 5, Holotype male; 3, 7 & 9, male; 2 & 4, 6, 8 & 10, female.

nae, mandibles, and tarsi dark brown to dark reddish brown, somewhat strongly shining; ventral surface light yellowish green, abdominal sternites dark, strongly shining. Dorsal side glabrous, but clypeus and frons dressed with several tawny long hairs; meso- and metafemora and metasternum densely covered with very long hairs on ventral side.

Clypeus trapezoidal, with lateral margins strongly convergent apicad from basal one-third, and



Figs. 11–15. Male genitalia, dorsal view. — 11, *Didrepanephorus vietnamicus* sp. nov. (holotype); 12, *D. arnaldi* MURAMOTO, 2003; 13, *Kibakoganea costata* sp. nov. (holotype); 14, *K. yoshitomii* NAGAI, 2003; 15, *K. kraatzi miyakei* MURAMOTO, 2005. Scales: 1.0 mm.

with anterior margin almost rectilinear and smooth; surface shallowly and coarsely punctate on basal half, evidently become smaller and sparser to front, most punctures each bearing a long hair; fronto-clypeal suture interrupted at middle. Frons slightly recessed in wide area of center, coarsely and densely punctate; punctures on frons coarser than those on clypeus, mostly each bearing a long hair. Mandibles broad at base, roundly protruded near tip, strongly curved inward near middle, and prolonged upward in whole.

Pronotum 1.5 times as wide as long, widest at base, coarsely and somewhat sparsely punctate on surface, with a slight median longitudinal depression and margined edges; lateral margins curved near middle, almost straightly convergent to front, weakly sinuate posteriorly, margination widest at middle of anterior margin, widely interrupted in middle of posterior one; anterior angles dully protruded; posterior angles subrectangular.

Scutellum semicircular, 1.5 times as wide as long, minutely and very sparsely punctate.

Elytra longitudinal, about 1.1 times as long as wide, widest at middle, with sutural and faint two

costae inside of shoulder, somewhat densely punctate on surface; the punctures irregular in size, but evidently smaller than those on pronotum; epipleura bearing several short hairs.

Pygidium short, broad, gently convex, minutely and sparsely punctate, most punctures each bearing a fine erect hair.

Metathorax densely hairy on ventral surface; prosternal process very small; metasternum without any process; abdominal sternites each bearing a row of short fine hairs, of which 2nd to 4th dressed with several short hairs at middle.

Anterior tibiae with three rather sharp external teeth.

Male genitalia. Parameres oblong oval, symmetrical, fused to each other at base; each paramere bearing tawny short hairs near apical margin and on apical half of ventral surface.

F e m a l e. Different from male in the following points: dorsal surface almost evenly reddish brown, with antennae and tarsi dark reddish brown; ventral surface dark; clypeus trapezoidal, with lateral margins strongly and rather uniformly convergent apicad, and with anterior margin strongly reflexed, very coarsely and somewhat rugosely punctate; frons coarsely and somewhat rugosely punctate, the punctures smaller than those on clypeus; mandibles short, roundly protruded outside at base; pronotum and elytra more strongly punctate, some punctures on elytra subconfluent with each other; pygidium very broad, slightly convex, clothed with intermixed long erect hairs; 4th abdominal sternite with a row of long hairs.

Length: ♂: 28.0 mm (including mandibles), 23.5 mm (excluding mandibles); ♀: 23.5 mm.

Distribution. Northeast India.

Type series. Holotype (NSMT): ♂, Lohit Dist., Arunachal Pradesh State, N.E. India, alt. 1,620 m, VII.2018, native collector leg. Paratypes: 1 ♂, 1 ♀, same data as for the holotype.

Etymology. This new species is named after two faint costae on each elytron.

Remarks. This new species somewhat resembles *Kibakoganea yoshitomii* NAGAI, 2004 from Laos, but can be distinguished from the latter by the following points: 1) dorsal surface dully shining (rather strongly shining in *K. yoshitomii*); 2) posterior portion of clypeus coarsely and densely punctate (very minutely and sparsely punctate in *K. yoshitomii*); 3) pronotum coarsely and somewhat densely punctate (minutely and sparsely punctate in *K. yoshitomii*); 4) elytra somewhat coarsely and densely punctate, each with two faint costae (minutely and coarsely punctate, and without a costa in *K. yoshitomii*). *Kibakoganea kraatzi miyakei* is distributed in the area where this new species occurs, but can be easily distinguished from the new species by the following points: 1) dorsal surface mostly dully shining except for head and pronotum shining on posterior parts; 2) pronotum rather strongly curved inward before posterior angles; and 3) elytra without costae.

要 約

村本理恵子・小林裕和：スジコガネ族 *Didrepanephorina* 亜族の2新種（鞘翅目コガネムシ科スジコガネ亜科）。——スジコガネ亜科スジコガネ族 *Didrepanephorina* 亜族に2新種を認め、それぞれ *Didrepanephorus vietnamicus* sp. nov. (ベトナム中南部) および *Kibakoganea costata* sp. nov. (インド北東部) と命名し、記載した。

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