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Short scientific note
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A new species of the genus *Indotrichius* Krikken, 2009 from Southern Vietnam (Coleoptera: Scarabaeidae, Cetoniinae)

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Abstract
Four species of Trichiina from the Himalayas and adjacent regions were up till now associated with the genus *Indotrichius* Krikken, 2009. Surprisingly, a new species, here described, was collected in the province of Lam Dong, in the south of Vietnam, considerably expanding the distribution range of *Indotrichius*. The genus is shortly re-diagnosed and a list of species is given.

Key words: Vietnam, Cetoniinae, Trichiina, new species, new records.

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Introduction

Until now, species belonging to the genus *Indotrichius* were known from some places in the south of the Himalayas and northeast India, and this taxon was considered endemic to that area. The present work extends the distribution range of *Indotrichius* to the south of Vietnam, from where a new species is described, suggesting the potential presence of other undescribed species also in the intermediate areas.

Material and methods

The total length of the specimen was measured from the anterior margin of the clypeus to the apex of the pygidium. Specimen width is the maximum width across the elytra. Measurements were taken using the ocular millimeter grid of a binocular microscope.

Photographs of holotypes of the compared taxa were taken with a Nikon Coolpix P7700 attached to one of the eyepieces of a Wild dissecting microscope and Wild Type-S option. Backgrounds were removed from photos using GIMP 2.8.14, in order to increase clarity. With the same program was done a bit of photo enanching.

Abbreviations

The following abbreviations are used to denote the housing location of the study material.

ERC Enrico Ricchiardi Collection, Torino, Italia
NHMUK The Natural History Museum, London, United Kingdom
NHMB Naturhistorisches Museum, Basel, Switzerland
SDEI Senckenberg Deutsches Entomologisches Institut, Germany, Müncheberg

Results

The genus *Indotrichius* Krikken, 2009 is composed of four species inhabiting the east side of South Himalayan area and northeast India (see below the species list in the Distribution section for details). Surprisingly a new species, *Indotrichius vietnamensis* sp. n., is present in the south of Vietnam, to more than 2000 km, as the crow flies, from the other species of *Indotrichius*.

In the Taxonomy section below the holotype ♂ of *I. vietnamensis* is described and its assignment to *Indotrichius* justified. Moreover, the morphological characters that distinguish *Indotrichius* from other Oriental Trichiina (sensu Smith et al. 2006) are discussed and the genus *Indotrichius* is rehabilitated.

Taxonomy

Genus Indotrichius Krikken, 2009
Type species: *Trichius ornatus* Jordan, 1895.

Krikken (2009) described *Indotrichius* assigning to it three species: *Trichius ornatus* Jordan, 1895, as type species, *Paratrichius assamensis* Krajcik, 2008, and *Paratrichius sikkimensis* Krajcik, 2008.

After 2009 a fourth species from Xizang (China), *Paratrichius* (*Indotrichius*) *gorodinskii* Tauzin, 2013 was described. Tauzin (2013) stated that *Indotrichius* is not a

genus on its own but a subgenus of *Paratrichius* Janson, 1891, justifying his statement in the following way (Pag. 2): «[...] mais à *Indotrichius* Krikken, 2009, qui nous considérons ici comme sous-genre de *Paratrichius*, car il n'en diffère que par la présence d'un petit éperon apical sur les protibias».

Tauzin (2013) did not mention the fact that Krikken (2008) defined *Indotrichius* with a set of characters, two of which were apomorphies:

1) Protibia with proximal serration.
2) Parameres long, symmetric, split into narrow internal and broad external portion (Fig. 2).

However, the first of the two characters is not always present. Many specimens of *Indotrichius sikkimensis* in my collection show a protibial proximal serration effaced and the holotype of *Indotrichius vietnamensis* sp. n. has the proximal margin straight. The second character, instead, is important, constant and shared by *I. vietnamensis* too, granting for the validity of *Indotrichius*.

Distribution. *Indotrichius* ranges from the South Himalayan sub-region to adjacent China and upland Vietnam; the included species exhibit the following geographical distribution:

assamensis (Krajcik, 2008). NE India (Meghalaya);
gorodinskii (Tauzin, 2013). SW China (South East Xizang), Tangmai;
ornatus (Jordan, 1895) NE India (Meghalaya);
sikkimensis (Krajcik, 2008) NE India (Sikkim, Darjeeling), Bhutan (**new record**; 3♂, 2♀ ERC), Nepal (**new record**; 1♂ NHMB);
vietnamensis **new species** Vietnam (Lam Dong Province).

***Indotrichius vietnamensis* new species** (Figs 1-2)

Type series. Holotype ♂ (NHMUK) **Vietnam**: Lam Dong Province, Di Linh, 1700 m, Apr 2016, Van Dang legit.

Diagnosis. *I. vietnamensis* can be separated from other *In-*

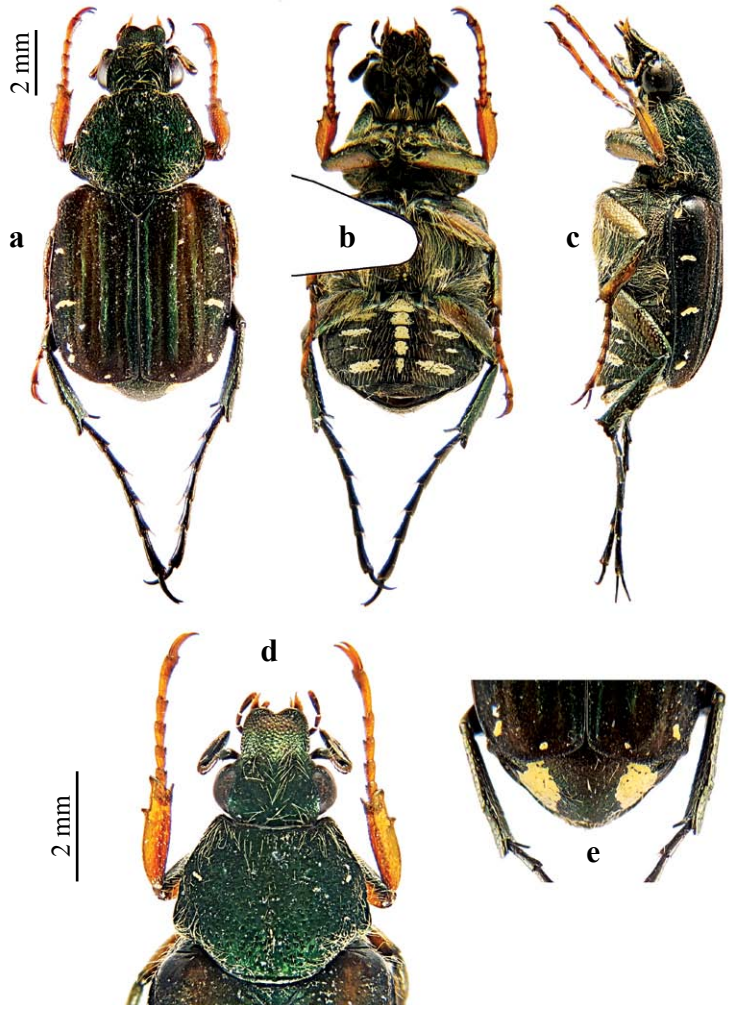

Fig. 1 – *Indotrichius vietnamensis* sp. n. Holotype ♂ (NHMUK); **a**, dorsal habitus; **b**, ventral habitus; **c**, lateral view; **d**, head, pronotum and protibia details; **e**, pygidium.

dotrichius by the shape of parameres, the presence of long, sparse testaceous setae on frons and pronotum, the peculiar shape of protibial spur with rounded apex, the length of first metatarsomere sub-equal to second, and the more compact appearance.

Description of the holotype. Length 11.7 mm (pygidium and clypeus included), maximum elytral width 5.6 mm.
Body. Predominant dorsal colours green and dark orange, with cretaceous white markings, matt. Pronotal colour opaque-metallic green, laterally covered with long, scattered, testaceous setae.
Head. Bisinuate - bilobate in front (rounded anterolaterally), anterior margin not raised and not reflexed. Antennal clubs longer than segments 2-7 combined. Clypeal surface slightly concave, slightly impressed laterally, lacking any protrusions. Clypeal colour metallic green; densely to crowdedly, finely ocellate-punctate, virtually glabrous. Frons unmodified, slightly convex, covered with long, reclining testaceous setae. Eye-canthus straight, narrow, set oblique in relation to midline.
Pronotum. Basal margin widely rounded, laterally slightly sinuate, with transverse indented line at short distance from border distinctly enlarging at centre of posterior margin. Narrower than elytra combined; disc generally evenly convex. Posterolateral angle of pronotum obtuse, apex widely rounded (dorsal view). With scattered, reduced cretaceous markings. Much of pronotum densely covered with round, deep punctures, confluent on pronotal sides.
Scutellum. Broadly triangular in outline (apex obtuse), wider than long. Scutellar surface dark metallic green, matt, glabrous. Anterior half punctate.
Elytron. Slightly longer than wide (at maximum width), with 5-6 annulate-punctate to geminate-striolate striae on disc, at most superficially impressed; elytra on cross-section generally more or less convex (disco-lateral transition gradual). Elytral disc with odd interstriae slightly elevated, without further obvious modifications; epipleuron reduced; humeral umbone distinct, intrahumeral depression shallow, anteapical umbone slight, both connected by barely visible orange marking; apicosutural angle widely rounded; distal surface simply declivous. Elytral colour generally matt, dark metallic green, with velutinous or cretaceous cover; pilosity limited, sparse or virtually absent; typically abundant fine, scattered punctation. With scattered, small cretaceous markings.
Ventral side. Metasternum black with slightly metallic maculae, with cretaceous markings, covered with appressed, thick, testaceous, long setae. Abdominal sides in dorsal view indistinct; ventro-dorsal transition gradually convex. Abdomen black-brown, with cupreous metallic lustre, venter slightly impressed; ventral side sparsely (hemi)punctate-setose, setae fine, more or less upright, with symmetric cretaceous markings; anal ventrite shorter than pre-anal ventrites. Mesosternal protrusion absent, mesocoxae subcontiguous.

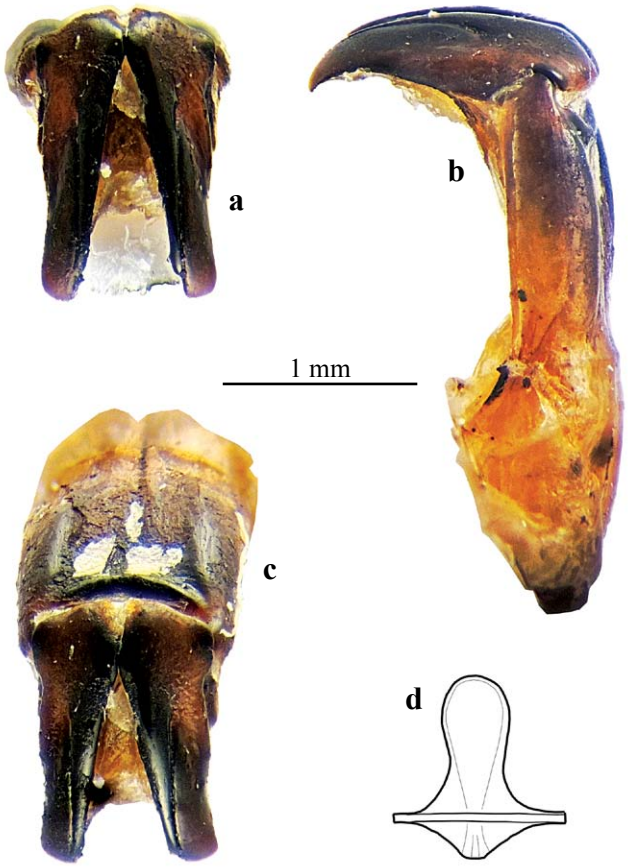

Fig. 2 – *Indotrichius vietnamensis* sp. n. Holotype ♂ (NHMUK); **a**, parameres, frontal view; **b**, aedeagus, lateral view; **c**, aedeagus, dorsal view; **d,** spiculum gastrale.

Pygidium. Height about one-half the maximum width; evenly convex across sclerite. Color black, with faintly visible metallic green hue; surface sculpture with more or less concentric, rugulose striations present; laterally on either side with cretaceous marking; anal edge narrowly marginate.
Legs. Pro- and mesofemora and pro- and mesotibia dark orange; metafemora and tibiae dark brown-black. Coxae and femora (scattered) (hemi)punctate-setose. Setae pale, long. Femora long, slender, without protrusions or other conspicuous modifications. Protibia dilated distad, surface punctate, pilosity limited; tibial apex oblique; basal-internal section of protibia unmodified. Protibia with two distal-external denticles, proximal-outer serration absent. Protibial terminal spur elongate, apex rounded, movable. Meso- and metatibiae slightly curved, without conspicuous excisions or projections, generally dilated distad, only with protrusion on outer side at 0.3-0.5 from apex. Meso- and metatibial apex finely, shortly multilobate-dentate. Meso- and metatibial terminal spurs tapering, all movable. Meso- and metatibial surface nearly glabrous. All tarsi with simply elongate-claviform, non-plumose tarsomeres. All tarsi slender, longer than tibia, five-segmented, surface smooth,

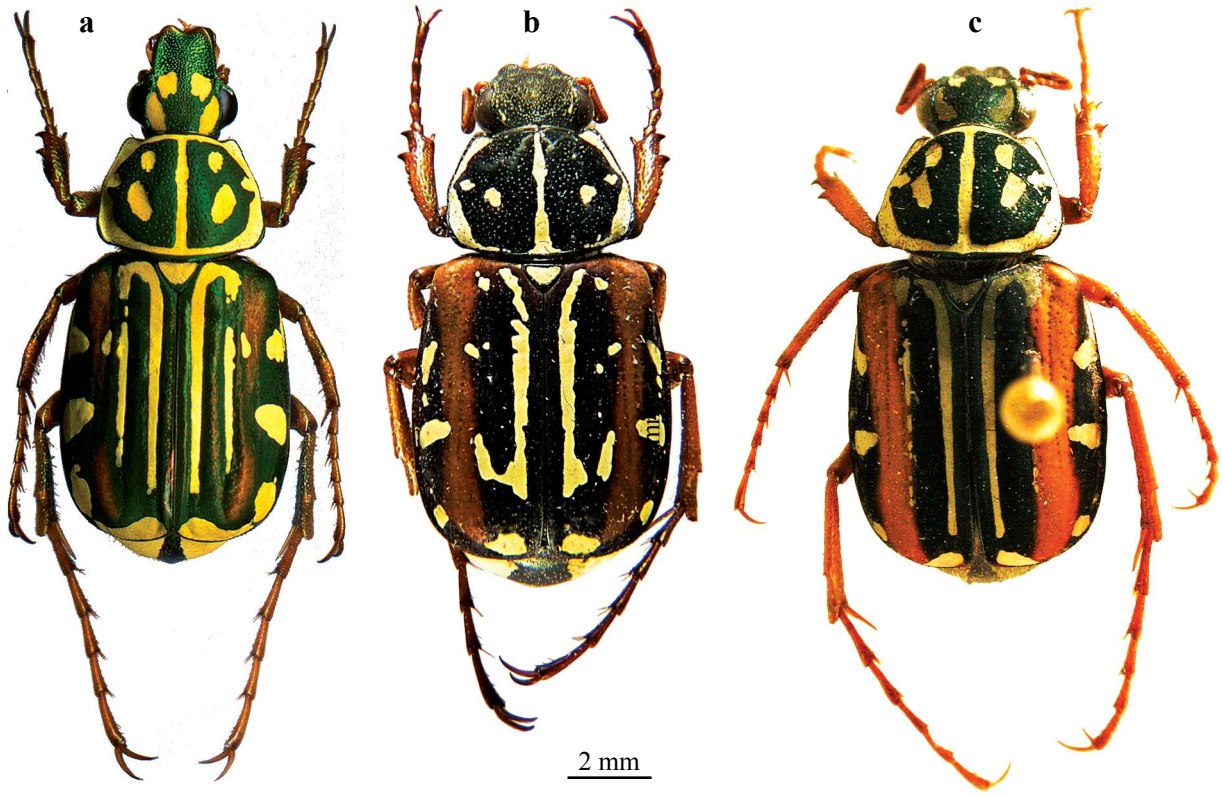

Fig. 3 – Habitus of *Indotrichius* spp. **a**: holotype ♂ of *I. gorodinskii* (Tauzin, 2013) (picture by André Gorodinski); **b**: ♂ of *I. sikkimensis* (Krajcic, 2008) (ERC); **c**: cotype ♂ (SDEI) of *I. ornatus* (Jordan, 1895).

sparsely punctate, pilosity limited; claws large, simply sickle-shaped. Protarsomeres 1-2 not particularly elongated or dilated. First metatarsomere as long as second.
Parameres. Distally split in narrow inner and broader outer strut, symmetric, glabrous (Fig. 2).

Female: unknown.

Etymology. The specific epithet of the new species refers to the collecting country.

Taxonomic notes. Up till now the species belonging to *Indotrichius* were considered endemic to the Himalayan area and its surroundings. Consequently, I was surprised to find among *Paratrichius* collected in southern Vietnam a male belonging to *Indotrichius*. Given the locality of capture of the specimen, more than 2000 km from the area where the other species live, I made a careful analysis of the characters of the specimen concluding that it belongs to *Indotrichius*. Although *I. vietnamensis* looks a little different from other species of the genus (Fig. 3), it presents nonetheless an unmistakable appearance which differs definitely from that of other Indochinese Trichiina.

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