

**A new *Reicheiina* from the Indochina Peninsula belonging to the genus
Laoreicheia Balkenohl, 2005 (Coleoptera: Carabidae: Scaritinae: Clivinini)**

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Abstract. *Laoreicheia bartolozzii* sp. nov. is described, illustrated and compared to a single species known to date. Its generic classification is discussed.

INTRODUCTION

The genus *Laoreicheia* was subrecently established by Balkenohl (2005), for a single female specimen from Laos (*L. bulirschi* Balkenohl, 2005). Balkenohl (2005) and later Bulirsch, Magrini & Jia (2013), Bulirsch & Magrini (2014) and finally, Balkenohl & Aston (2015) described another five South-eastern Asian Reicheiina species for which Bulirsch & Magrini (2014) created the genus *Asioreicheia*. Recently, the second specimen (and the first male) of the genus *Laoreicheia* was found. This finding is therefore particularly interesting because to date, the structure of the male genitalia was unknown in this genus.

MATERIALS, METHODS AND ACRONYMS

The new species was collected in Vietnam within the framework of a research Memorandum of Understanding (see Vu et al., (2014)) signed between the Natural History Museum of the University of Florence, Italy, and the Vietnam National Museum of Nature in Hanoi. The new species was compared with HT of *L. bulirschi* (PBPC) as well as with the most type specimens of the genus *Asioreicheia* (PBPC, PMFC).

Macrophotographs were taken by the first author using a Nikon D2X or D800 digital camera, applied to a Nikon Labophot II binocular optical microscope or a Nikon SMZ 1000 stereomicroscope, with diaphragmed lenses.

The following abbreviations are used to indicate the depository of specimens:

VNMN Vietnam National Museum of Nature in Hanoi (Vietnam);

PBPC private collection of P. Bulirsch, Praha (Czech Republic);

PMFC private collection of P. Magrini, Florence (Italy).

Other abbreviations used:

L: length of body from closed mandibles to elytral apex; TL: length of body from clypeus to elytral apex; HMW: maximum width of head; LA: length of antennae; PL: length of pronotum along middle line; PMW: maximum width of pronotum; EL: length of elytra along suture. EW: maximum width of elytra; LE: length of aedeagus; AN: length of antennomeres; HT: holotype; DSP: dorsal setiferous punctures, BSP: basal setiferous punctures.

RESULTS

The genus *Laoreicheia* Balkenohl, 2005

Type species: *L. bulirschi* Balkenohl, 2005: 3.

Laoreicheia bartolozzii sp. nov.

(Figs. 1-13, Tab. 1)

Type locality. Central Vietnam, Tua Thien Hue Prov., Bach Ma Natural Park, near Hotel Morin (1350-1400 m a.s.l.), 16.2°N, 107.85°E.

Type material. Holotypus (♂): Central Vietnam, Tua Thien Hue Prov., Bach Ma Natl Park, surr. Hotel Morin (1350-1400 m a.s.l.), 16.2°N - 107.85°E; 23-28.V.2014, Legit. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi, F. Fabiano (No. Magazz. 2978), (VNMN).

Diagnosis. A *Laoreicheia* species, distinctly larger than *L. bulirschi*, with convex body and robust, medium long antennae (Fig. 1). Pronotum with two pairs of paramedian setae. Median lobe of aedeagus with strongly curved outline, with tapered conical apex and wide, dilated basal bulb; internal armature formed by large bundle of very much pigmented thorns arranged in radial pattern (Figs. 2-3).

Tab. 1. Morphometric measurements of HT (measured data in mm).

	L	TL	LA	L --- LA	TL --- LA	PM W	PL	PMW --- PL	EL	EW	EL --- EW	HM W	LE	EW --- PMW	AN 1°	AN 2°	AN 3°	AN 4°	AN 11°
HT, male	2.37	2.23	0.82	2.89	2.71	0.67	0.67	1.00	1.22	0.83	1.46	0.40	0.57	1.23	0.08	0.11	0.06	0.06	0.11

Description. Length of body: L 2.37 mm, TL 2.23 mm. Body broad, robust, convex; colour uniformly dark reddish; teguments very shiny, with microsculpture not clearly visible (Fig. 1).

Head. Relatively small (HMW 0.40 mm), barely elongate, distinctly narrower than pronotum; eyes with one strongly vaulted ommatidium; genae very large and prominent, subspherical, convex; facial furrows long and very deep, wrinkled on bottom, parallel and remarkably spaced; external supraorbital carina very blunt and vanishing anteriorly; internal carina distinct, barely raised and joined to median lobe. Clypeus convex, triangular, posteriorly prolonged by small tubercle. Labrum with distal margin convex, irregular, with five marginal setae. Two supraorbital setae very close together. Mandibles robust and very pointed, falcate. Apical segment of maxillary palpomeres distinctly securiform, slender and pointed at

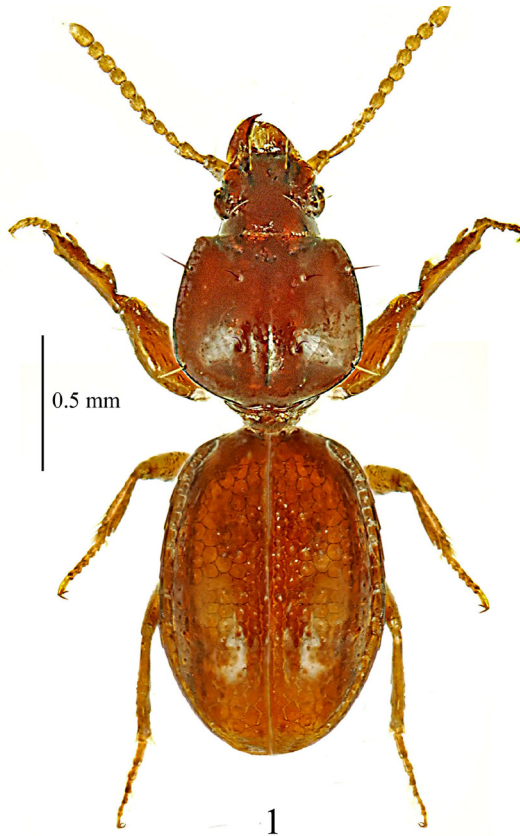


Fig. 1: Habitus. *Laoreicheia bartolozzii* sp. nov. (HT).

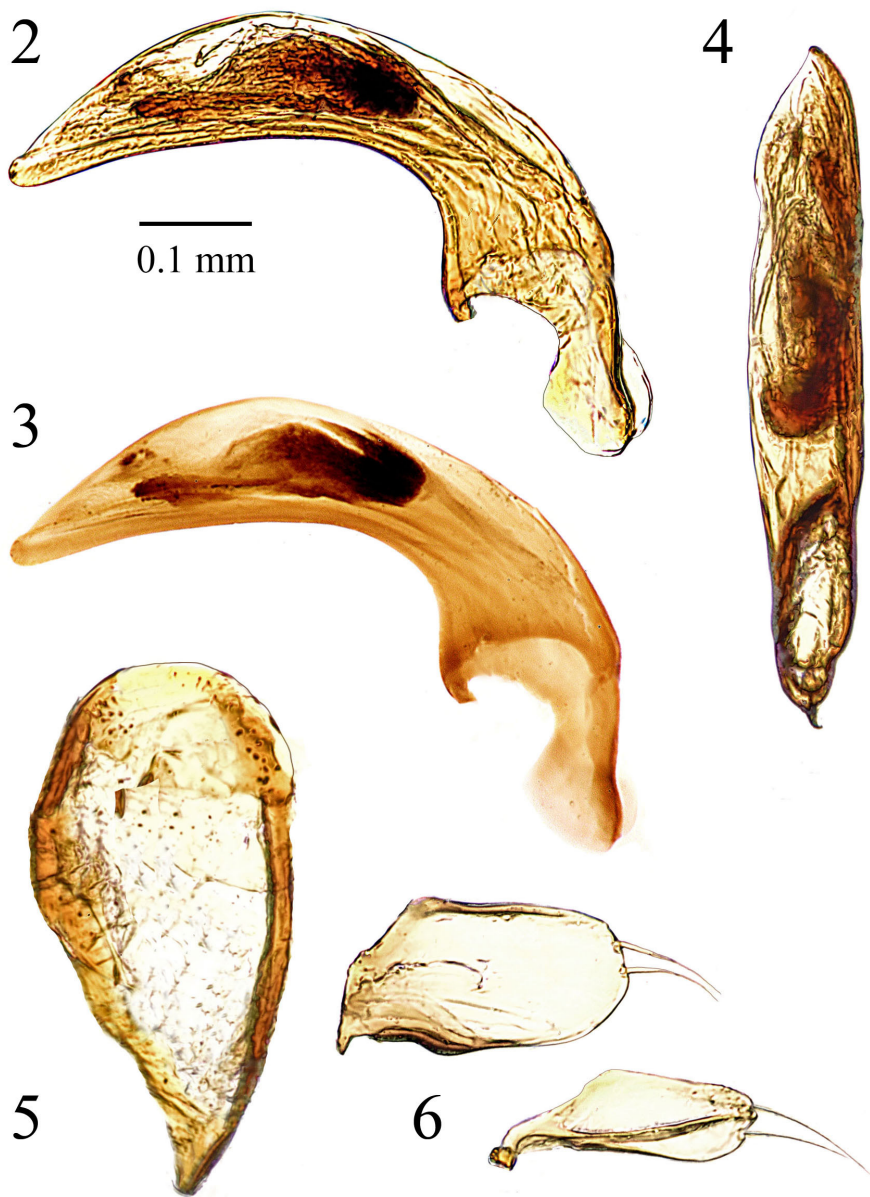
apex (Fig. 10); terminal segment of labial palpomeres ampulla-shaped, remarkably wide, both last and penultimate segments with some strong setae (Fig. 11). Antennae moderately long, antennomeres 4-10 moniliform, robust; second one shorter than third and fourth combined; last antennomere long and oval (LA 0.82 mm; L/LA 2.89; TL/LA 2.71).

Pronotum. Very wide, barely narrower than elytra (PMW 0.67 mm, EW 0.83 mm), as wide as long (PL 0.67 mm, PMW/PL 1.00); front angles obtuse. Disc convex, with two pairs of paramedian setae, with deep median line, not interrupted before prebasal groove, latter barely convex in direction of disc. Base completely bordered (Fig. 7); reflexed lateral margin and lateral channel very narrow; peduncle short and narrow.

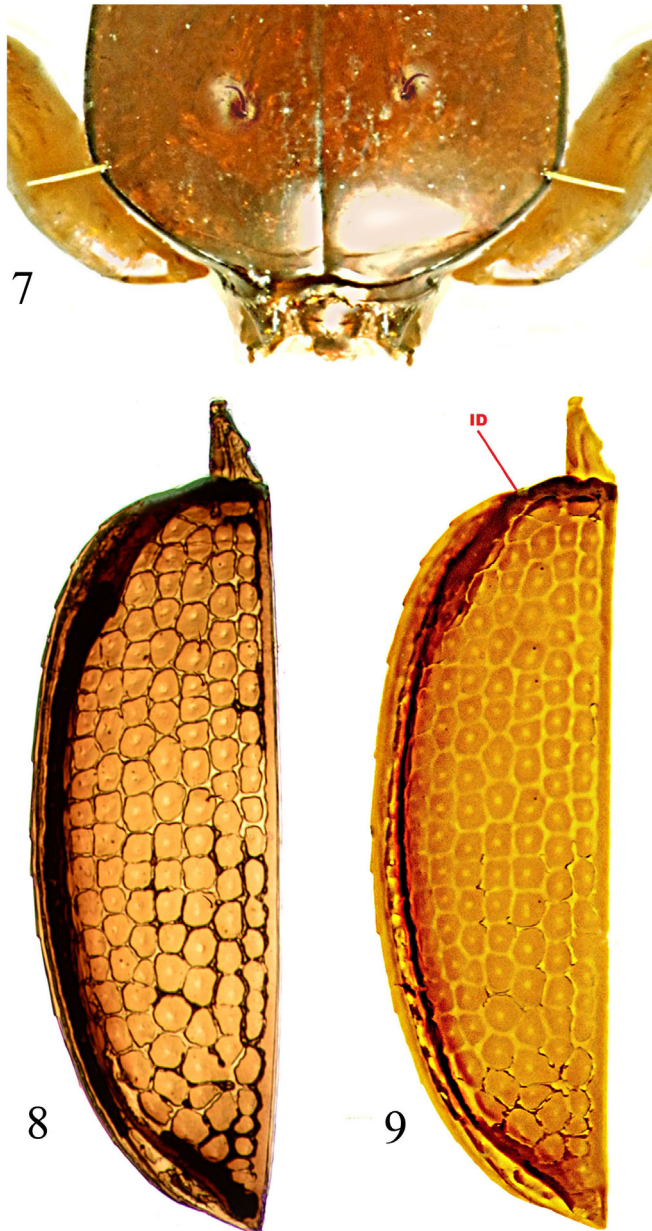
Elytra. Wide, convex, short oval, with broadly rounded humeri (EL 1.22 mm; EW 0.83 mm; EL/EW 1.46; EW/PMW 1.23). Basal channel very wide, reaching fifth stria (as in genera *Typhloreicheia* Holdhaus, 1924 and *Reicheia* Saulcy, 1862); lateral margin with 10-11 teeth, extended from humeri to second third of length, teeth long and fine, not very prominent. Striae very fine, represented almost everywhere by superficial punctures, completely vanishing latero-apically; intervals entirely flat. In interval 3 five fine DSP, with fine and short setae (Figs. 8-9); BSP vestigial, replaced by a large prominent tubercle; marginal setae (umbilicate series) very numerous (over 15 on each side), equidistant to each other. Elytral apex regular, blunt, not spiniform.

Legs. Of medium length; protibiae with moderately distinct lower and very blunt upper spine.

Aedeagus. Large-sized (LE 0.57 mm), strongly vaulted in lateral view, with narrowed conical apex, with wide and dilated basal bulb (Figs. 2-3); in ventral view apex triangular and straight (Fig. 4). Large, strongly sclerotized vesicle with highly pigmented setae and spines converging towards basal bulb. Apical copulatory lamella well sclerificated, in form of large estroflexion departed from setiferous vesicle (Figs. 2-3). Urite IX small, elongate-

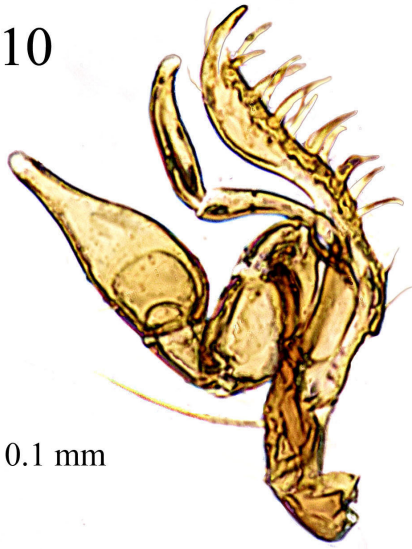


Figs. 2-6. *Laoreicheia bartolozzii* sp. nov. (HT): 2- median lobe of aedeagus in lateral view (in euparal on vinyl acetate); 3- median lobe of aedeagus in lateral view (on perspex); 4- median lobe of aedeagus in ventral view (on acetate); 5- urite IX; 6- parameres.



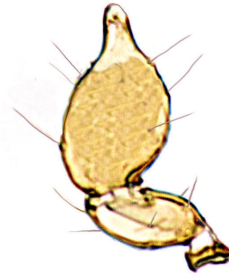
Figs. 7-9. *Laoreicheia bartolozzii* sp. nov. (HT): 7- basal part of pronotum with basal edge and median sulcus; 8- left elytron in euparal (on transilluminated acetate from below); 9- left elytron (in euparal on perspex illuminated from above); ID = beginning of elytral lateral channel.

10



0.1 mm

11



12



Figs. 10-12. *Laoreicheia bartolozzii* sp. nov. (HT): 10- maxillary palpus and left maxilla; 11-left labial palpus; 12- Habitat of new species in central Vietnam (Photo: S. Bambi).



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Fig. 13. Distribution of Reicheiina in Indochina Peninsula: genera *Laoreicheia* Balkenhol, 2005 and *Asioreicheia* Bulirsch & Magrini, 2014. LU: *L. bulirschi* Balkenhol, 2005; LA: *L. bartolozzii* sp. nov; M: *A. margolata* (Balkenhol, 2005); F: *A. fedorenkoi* Bulirsch & Magrini 2014; V: *A. vietnamica* Bulirsch & Magrini, 2014.

oval, with pointed apex (Fig. 5). Parameres large and laminar; left one very wide, with two short and strong setae at apex; right with two setae (Fig. 6).

Differential diagnosis and comparative zoogeographical notes. *L. bartolozzii* sp. nov. is the second known specimen and species of the genus. It can be distinguished from *L. bulirschi* especially by having the body distinctly larger; by the pronotum being broader and by the elytra having much finer striae, all intervals flat and by having only five DSP (*L. bulirschi* has seven DSP). It can be easily differentiated from all species of the genus *Asioreicheia* Bulirsch & Magrini, 2014 by having two pairs of the paramedian setae on the disc of the pronotum, by DSP being only in interval 3 and by the structure of the aedeagus as described below.

To date, only a female of *L. bulirschi* and a male of *L. bartolozzii* sp. nov. have been known. The new species in most important characters (as in the shape of the eyes and the genae, the presence of two pairs of the paramedian setae, the deep pronotal median line reaching the basal groove, the distinctly evaluated serration of the elytral lateral margin) is consistent with the genus description in Balkenohl (2005). On the other hand, there are some differences especially in the elytra. *L. bartolozzii* sp. nov. has the elytral lateral channel reaching fifth stria and BSP vestigial with distinct tubercle, whereas in *L. bulirschi* is the lateral channel is slightly shorter (reaching fifth interval near fourth stria but not third interval as mentioned in the original description) and BSP is fine but distinct, with the very fine basal tubercle. Although the new species coincides rather well with the genus characteristics it is not excluded that it belongs to a new (sub)genus. Solving of this issue is not possible without next (especially male) specimens of the genus.

As the description of the new species is based on the first known male, the description of the male genitalia is new for the whole genus. The structure of the aedeagus is different from all species of the genus *Asioreicheia* and confirm independence of both genera. The new species has the left paramere with rounded apex (angular by *Asioreicheia*) and has the inner vesicle of the median lobe with the indefinite bundle of cords and spines (similar to *Reicheia*), with the apical copulating lamella, instead of clearly separate structures in the shape of large spines as is in *Asioreicheia*.

Name derivation. With great pleasure we dedicate the new species and unique specimen to our friend and colleague Luca Bartolozzi, Curator of the Department of Entomology at the Museum of Natural History “La Specola” in Florence, who deserves the credit for having collected the taxon together with other colleagues from this Museum and for having allowed us to study it.

Distribution. The only known specimen was collected in the Bach Ma National Park, not far from the coast, in central Vietnam, by sifting of the forest litter (biotope in Fig. 12).

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