

A new species in the genus *Rugilucivina* Balkenohl, 1996 from Thailand (Coleoptera: Carabidae: Scaritinae: Clivinini)

Petr BULIRSCH¹ & Paolo MAGRINI^{2,3}

¹Milánská 461, CZ-109 00 Praha 111, Czech Republic
e-mail: p.bulirsch@seznam.cz

²Museum of Natural History of the University of Florence,
Zoology Section “La Specola”, Via Romana 17, I-50125 Firenze, Italy

³via Gianfilippo Braccini 7, I-50141 Firenze, Italy
e-mail: duvalius@paolomagrini.it

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Abstract. *Rugilucivina barclayi* sp. nov. from Thailand is described, illustrated including its aedeagi and styli and is compared with the most similar species. A key to the known species of *Rugilucivina* Balkenohl, 1996 is provided.

INTRODUCTION

The exclusively Oriental clivinini genus *Rugilucivina* was established by Balkenohl (1996) for four newly described species. Subsequently, Balkenohl (1999, 2015, 2018) described two additional species, transferred *Clivina julienei* Lesne, 1896 and *C. alutacea* Lesne, 1896 to this genus and provided a key to the eight species known at that time. Bulirsch & Magrini (2022) described another new species from China, so to date nine species are known and a tenth species is described below.

MATERIAL AND METHODS

The study of dry-mounted specimens, including measurements and examination of microsculpture, was done at a magnification up to 98×. All specimens were measured. Measurements: length of body is measured from the anterior margin of the closed mandibles to the apex of the elytra along the suture; length of the pronotum along its midline; width of the pronotum at widest point; length of the elytra from its base to its apex along the suture; width of the elytra at its widest point. Length of the body is given with 0.05 mm accuracy; other measurements including ratios and means are down to two decimal places. Label locality data are quoted verbatim except for standardizing the dates. The terms and style of the description are used according to Balkenohl (2015, 2018) as close as possible.

Macrophotographs were taken by the second 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.

For the study of the genus *Rugiluclivina* Balkenohl, 1996 extensive material from the first author's collection was used - mostly identified or revised by Balkenohl including HT or PT of most similar species and by using the precise (re)descriptions, figures and keys published by Balkenohl (1996, 1999, 2015, 2018).

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

BMNH Natural History Museum, London, UK;

PBPC Petr Bulirsch, private collection, Praha, Czech Republic.

Other abbreviations:

SP: setiferous puncture(s); DSP: dorsal setiferous puncture(s); HT: holotype(s); PT: paratype(s); /, // by locality labels: end of line, label.

RESULTS

Genus *Rugiluclivina* Balkenohl, 1996

Type species: *Rugiluclivina reticulata* Balkenohl, 1996.

Rugiluclivina barclayi sp. nov.

(Figs. 1-6)

Type material. Holotype (♂): Thailand, Nan Province / Lainan, 22-23.ix.2012, cabbage / farm, 18.579°N 100.757°E LN3 / Light Trap, leg. D.L.J. Quicke / BMNH{E} 2015-75, (BMNH). Paratypes (2 ♀♀, 1 spec.): with the same data as holotype (BMNH, PBPC).

Description. Body as in Fig.1. Dorsal and ventral surface shiny, yellowish brown, apex of mandibles slightly darker, remaining mouthparts, antennal base, elytra, intermediate and hind legs very slightly lighter. Measurement: total length 4.55 mm in HT, 4.35-4.55 mm in PT; width 1.25 mm in HT, 1.16-1.24 mm in PT; pronotum in HT 0.99, in PT 0.98-0.99 times as long as broad; pronotum in HT 1.26, in PT 1.23-1.30 times as broad as head; elytra in HT 1.98, in PT 1.99-2.02 times as long as broad; elytra in HT 1.10, in PT 1.07-1.08 times as broad as pronotum; length of aedeagus in HT 0.94 mm; aedeagus 0.38 times as long as elytra.

Head. Clypeus wide, anterior margin almost direct between small, sharply projecting lateral teeth, transversal furrow moderately deep and broad; laterally smooth, wider than teeth of clypeus, projecting antero-laterally as teeth; clypeus, wings and supraantennal plates narrowly margined. Supraantennal plates vaulted, projecting broadly laterally but not beyond eyes, covered with irregular carinae, with obtuse rounded angle anteriorly; teeth, wings and supraantennal plates separated by deep and narrow notches. Supraorbital furrows wide, diverging posteriorly to posterior supraorbital SP. Supraorbital carinae short. Frons globose, covered completely with irregular carinae, latter subparallel posteriorly, divergent anteriorly to clypeal furrow; 2-3 outer ones irregularly connected on neck, forming more or less irregular letters "u". Neck without constriction. Eyes of moderate size, convex, moderately protruding. Genae indistinct. Antennae moderately long, segments 6-10 submoniliform, seta on scapus situated dorso-frontally at apex, segment 2 attached

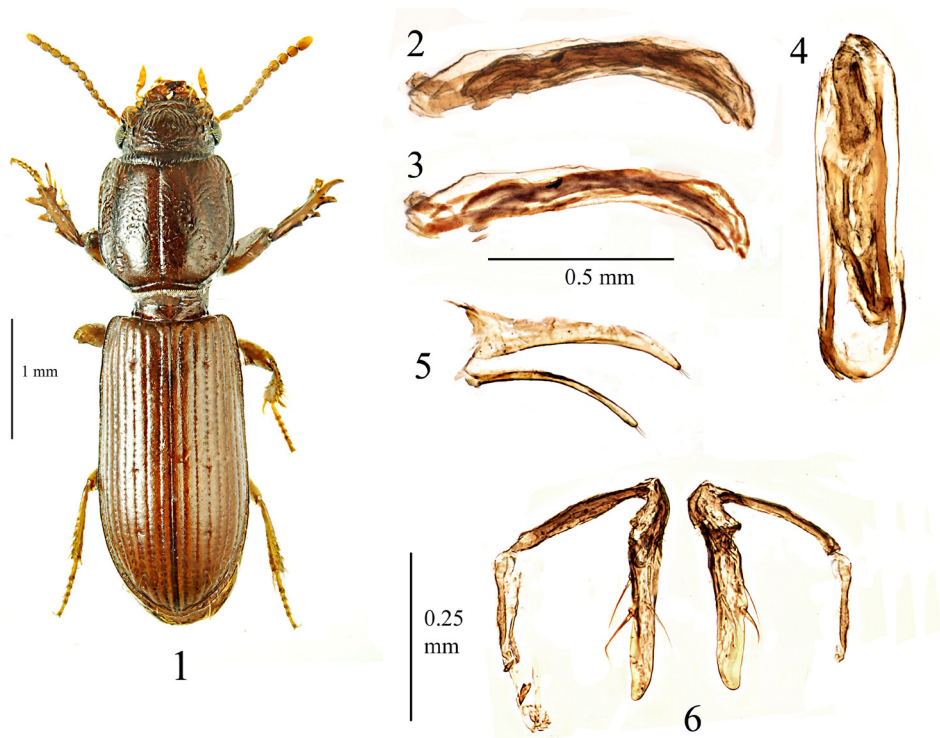


Fig. 1. *Rugilucivina barclayi* sp. nov. Habitus of HT.

Figs. 2-6. *Rugilucivina barclayi* sp. nov. 2-5 (HT), 6 (PT): 2- median lobe of aedeagus in lateral view on ethyl acetate); 3- idem on perspex; 4- median lobe of aedeagus in ventral view on ethyl acetate; 5- parameres; 6-stylocerites.

eccentrically to scapus. Labrum wider than clypeus, bilobed, distinctly excised at middle, 6-setose (three pairs of lateral and no median setae), ciliate laterally; lobes of labrum not margined, with isodiametric reticulation in its basal part. Mandibles slender at apex, apical half and lateral margin bent dorsally, with few sublongitudinal rugae in basal half. Two apical segments of maxillary palpi securiform; segment 2 of labial palpus bisetose, apical segment fusiform.

Pronotum. Subrectangular, slightly convex on disc (lateral view), conspicuously convex in frontal view. Anterior angles small, sharp, as far advanced as anterior margin. Posterior angles very blunt, hardly visible in dorsal view, more distinct in lateral view. Lateral border regularly rounded at anterior angles and slightly before posterior SP, almost parallel at middle. Posterior SP situated in very distinct fovea, removed from lateral channel by diameter of SP; lateral channel abruptly strongly broadened between lateral SP. Reflexed margin fine in entire length, latero-basally directly before base (basal flange). Anterior transverse line deep, broad, complete, joining median line, latter barely finer, complete, broad anteriorly, indistinctly narrower basally. Surface smooth on disc, with rather rough

isodiametric reticulation at base and finer reticulation anteriorly of anterior transverse line; basal impression inside posterior SP with longitudinal group of punctures and rugae, anteriorly prolonged on each side almost to anterior line by two sublongitudinal broad strips of deep punctures mixed with short striae, forming irregular y-impression bilaterally.

Elytra. Cylindriform, very slightly dilated in apical half, barely contracted to humeri. Humeri distinct, very narrowly rounded. Base distinctly concave at declivity, margined from humeri to peduncle, declivity perpendicularly falling to pedunculus; BSP at base of first stria. Scutellar stria fine and very short, tubercles at base of interval 2 very small, 3-4 indistinct; striae rather fine, finely punctuate, 1-4 free at base, 5 and 6 irregularly joining just below humeri. Intervals latero-basally moderately, on disc slightly convex, 7 carinate at apex, 8 carinate at humeri and apex, moderately vaulted at midlength. Marginal channel with uninterrupted series of SP barely wider situated at middle. Third stria with four DSP. Basal inclination, interval 6 in basal half at least laterally and 7-8 completely with isodiametric reticulation. Reflexed lateral margin very finely crenulate in basal half.

Thoracical wings. Fully developed.

Lower surface. Proepisterna with rough isodiametric reticulation, with some transverse wrinkles laterally, submarginal furrow complete. Epipleura with row of punctures. Abdomen with distinct isodiametric reticulation, ventral strigae distinct, apex of terminal segment with few subtransverse rugae and two apical SP widely separated.

Legs. Protibia with deep and broad sulcus dorsally, lateral upper spine wide, ensiform, turned distinctly ventrally and laterally; movable spur shorter than spine, not explanate at apex, sharp, turned slightly ventrally, three preapical lateral denticles wide, ensiform, obliquely truncated. Intermediate tibiae (in HT left tibia with tarsi missing) with distinct spur with excentric seta, tibiae not hirsute at inner side.

Male genitalia (Figs. 2-5). Median lobe laterally as in Figs. 2-3, almost straight at basal and middle part, rather slightly arcuate apically; in ventral view as in Fig. 4, lateral margin subparallel, apex moderately rounded. Parameres as in Fig. 5, larger at base broadened, with three apical bristles, smaller narrower, with two bristles.

Female genitalia. As in Fig. 6; stylomeres with laterotergites IX globiforms, with three marginal bristles.

Differential diagnosis. According to the key in Balkenohl (2018) updated below and study of the related species, the new species is most similar to *Rugilucivina leonina* Balkenohl, 1996 but it differs mainly in the following characters: the body is distinctly darker; the pronotum has the dorsal surface with the punctures and rugae forming more or less regular “Y” bilaterally (latter is missing in *R. leonina*); the elytra have finer striae and less vaulted intervals; and finally the aedeagi and the styli are different (as in Figs. 2-6 versus figs. 4, 6 in Balkenohl (1999)). The new species is differentiated from the other species of the genus in the Key below.

Name derivation. Patronymic, in honour of Maxwell V. L. Barclay (BMNH) for his long-term help in my study of scaritins.

IDENTIFICATION KEY TO THE SPECIES OF THE GENUS *RUGILUCLIVINA*
(updated key in Balkenohl (2018))

- 1(6) Interval 3 of elytra with 3 DSP; labrum not margined.
- 2(3) Surface of elytra covered with irregular reticulation, subopaque; surface of pronotum with irregular reticulation on disk and among rugae and punctures; reflexed lateral margin of pronotum subcrenulated, lateral channel and reflexed margin translucent; lateral margin of pronotum slightly but distinctly convex at middle, posterior angles with obtuse tooth; body length 7.3-8.0 mm *R. julieni* Lesne
- 3(2) Surface of elytra smooth, glossy; surface of pronotum glossy, also among rugae; reflexed lateral margin of pronotum smooth, lateral channel and reflexed margin not translucent; lateral margin of pronotum straight at middle, posterior angles with acute tooth.
- 4(5) Elytra slightly dilated in apical half; two setae of ligula separated; dorsal surface of pronotum with punctures forming more or less distinct "Y" bilaterally; base of pronotum moderately produced; reflexed lateral margin of pronotum running from posterior angle to base as concave line; transverse furrow of clypeus fine; intervals of elytra convex; body length 5.7-6.8 mm. *R. puncticollis* Balkenohl
- 5(4) Elytra not dilated in apical half; two setae of ligula close together; dorsal surface of pronotum with transverse rugae; base of pronotum distinctly produced; reflexed lateral margin of pronotum running from posterior angle to base as straight line; transverse furrow of clypeus deep; intervals of elytra flattened; body length 8.0-10.3mm *R. rugicollis* Balkenohl
- 6(1) Third interval of elytra with 4 DSP; labrum finely margined.
- 7(14) Interval 8 of elytra carinate from humeri to apex without interruption; reflexed lateral margin of elytra smooth.
- 8(11) Black; surface of elytra covered completely with isodiametric reticulation; intervals flattened; striae thin, punctures indistinct; surface of pronotum coreaceate.
- 9(10) Base of elytra distinctly concave; surface of pronotum glossy between rugae of coreaceate pattern; ratio length / width of elytra 2.03; lateral transverse rugae of pronotum distinct; second DSP on interval 3 situated distinctly anterior mid-point; posterior angles of pronotum acute, distinct; lateral channel of pronotum wide, crenulated; reflexed lateral margin of pronotum straight at middle; tubercles on intervals 2-5 at base of elytra distinct; body length 7.3-8.3 mm. *R. reticulata* Balkenohl
- 10(9) Base of elytra slightly concave; surface of pronotum irregularly reticulated between rugae of coreaceate pattern; ratio length / width of elytra 1.90; lateral transverse rugae of pronotum indistinct or missing; second DSP on interval 3 situated distinctly posterior mid-point; posterior angles of pronotum fine, rounded; lateral channel of pronotum regularly developed, smooth; reflexed lateral margin of pronotum convex, tubercles on intervals 2-5 at base of elytra small; body length 7.4-8.1 mm. *R. alutacea* (Lesne)
- 11(8) Brown; surface of elytra glossy; intervals convex; striae deep, punctures distinct; surface of pronotum glossy.
- 12(13) Body length 4.8-5.6 mm; antennal segments 6-10 distinctly submoniliform; reflexed margin of pronotum slightly concave before base; elytral striae more deeply punctuate; basal tubercles indistinct; aedeagus as in Fig. 10 in Balkenohl (1996). North Laos. *R. wrasei* Balkenohl
- 13(12) Body length 6.5-6.9 mm; antennal segments 6-10 barely submoniliform; reflexed margin of pronotum direct before base; elytral striae less deeply punctuate; basal tubercles distinct; aedeagus as in in Figs. 4-6 in Bulirsch & Magrini (2022). China (Yunnan). *R. hartmanni* Bulirsch & Magrini
- 14(7) Interval 8 of elytra carinate at humeri and at apex, space in between convex; reflexed lateral margin of elytra finely to very finely crenulated.
- 15(16) Much larger species, body length 9.0-9.4 mm; eyes globose, conspicuously protruding laterally; reflexed lateral margin of pronotum convex, channel wide, continued from posterior SP to base as concave line. *R. promineoculata* Balkenohl
- 16(15) Much smaller species, body length 4.0-4.7 mm; eyes less protruding laterally; reflexed lateral margin of pronotum not to barely convex, channel narrow or broad, continued from posterior SP to base as straight line.

- 17(18) Yellowish species; dorsal surface of pronotum without deep punctures; elytral striae deeper, intervals distinctly vaulted. *R. leonina* Balkenohl
- 18(17) Light brownish species; dorsal surface of pronotum with rough punctures mixing with irregular striae, forming on disc very distinct, irregular and broad “Y” bilaterally; elytral striae finer, intervals slightly vaulted. *R. barclayi* sp. nov.

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