

Two new species of the genera *Rugiloclivina* Balkenohl, 1996 from China and *Orictites* Andrewes, 1931 from Vietnam (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 - 50125 Firenze, Italy

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

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Abstract. *Rugiloclivina hartmanni* sp. nov. from China (Yunnan) and *Orictites ninosuttoi* sp. nov. from North Vietnam are described, illustrated including its aedeagi and / or styli and both new species are compared with the most similar species of the respective genus.

INTRODUCTION

The clivinini genus *Rugiloclivina* was (sub)recently established by Balkenohl (1996) for four Oriental species: *R. reticulata* Balkenohl, 1996 and *R. wrasei* Balkenohl, 1996 from North Laos; *R. puncticollis* Balkenohl, 1996 from North Vietnam and *R. rugicollis* Balkenohl, 1996 from Northeastern Thailand [“Indochina: Ban Som Di.”]. Later Balkenohl (1999, 2015) described *R. leonina* Balkenohl 1999 and *R. promineoculata* Balkenohl, 2015 from North Laos, and finally, Balkenohl (2018) transferred *Clivina julieni* Lesne 1896 and *C. alutacea* Lesne, 1896 from Cambodia and Vietnam to this genus and keyed all eight to date known species.

The clivinini genus *Orictites* was established by Andrewes (1931); Balkenohl (2017a, b) revised this genus and transferred *O. costulipennis* (Bates, 1892) to it, originally described in the genus *Clivina* Latreille, 1802; described another 16 species and keyed all 19 to date known species, and finally, Bulirsch & Magrini (2022) described *O. orbachi* from Vietnam.

MATERIAL AND METHODS

The study of dry-mounted specimens, including measurements and examination of microsculpture, was done at a magnification up to 56×. 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 and width of 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 standardized dates. The terms and style of the description are used according to Balkenohl (2015, 2017a, b, 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 genera *Rugiloclivina* Balkenohl, 1996, and *Orictites* Andrewes, 1931 was used extensive material from the first author's collection - mostly identified or revised by Balkenohl including some HT or PT of most similar species and by using precise (re) descriptions, figures and keys published by Balkenohl (1996, 1999, 2015, 2018) for the former and by Balkenohl (2017a, b) and Bulirsch & Magrini (2022) for the latter genus.

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

NHMB Naturhistorisches Museum, Basel, Switzerland;

NKME Naturkunde Museum, Erfurt, Germany;

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 *Orictites* Andrewes, 1931

Type species: *O. minotaur* Andrewes, 1931: 428.

According to Balkenohl (2017a, b) the genus can be divided into two subgenera: *Orictites* s. str. with a single type species and the subgenus *Semictites* Balkenohl, 2017 with remaining 19 known species including one newly described species by Bulirsch & Magrini (2022). This genus is exclusively distributed in South East Asia. The species described below belongs to the latter subgenus as well.

Subgenus *Semictites* Balkenohl, 2017

Type species: Balkenohl (2017a), p. 7: *Clivina costulipennis* Bates, 1892.

Orictites (Semictites) ninosuttoi sp. nov.

(Figs. 1-3)

Type material. Holotypus (♀): N Vietnam, 21.27°N 105.39°E / 70 km NW of Hanoi, Tam Dao / 1-8.vi.1996, 900-1200 m / P. Pacholátka & L. Dembický leg., (NMMB).

Description. Body as in Fig. 1; length 7.85 mm, width 2.35 mm in HT. Body dark fuliginous, shiny, legs and antennae brownish, mouthparts barely lighter; suture, lateral margin of pronotum, elytra and supraantennal plates distinctly brownish translucent.

Head. Anterior margin of clypeus with middle part broadly concave, moderately distinctly protruded from lateral, narrowly rounded teeth (wings), latter connected

with supraantennal plates by almost rectangular, very narrowly rounded notch. Clypeal field with distinct, blunt transverse ridge between pair of clypeal setae; anterior margin and wings finely, supraantennal plates distinctly margined. Supraantennal plates distinctly vaulted up to about one fourth of eye level, rather smooth, reflexed margin rounded, frons irregularly separated from clypeus by irregular, very broad and rather superficial, roughly wrinkled and punctured furrow. Supraorbital plates prolonged posteriorly as irregular subparallel carina up to neck constriction, separated from supraorbital carinae by irregular, deep and broad furrow and from frons by deep subparallel furrow. Supraorbital setae in deep and broad, irregular supraorbital furrows. Eyes rather small, barely convex, genae very distinct, rounded, about as long as eyes, enclosing eyes margin posteriorly, forming slightly obtuse angle at neck. Surface between transverse clypeal furrow and neck (approximately between eyes) barely vaulted, covered by irregular, very deep punctures or pits. Neck formed by 2-3 irregular rows similarly deep, partly connected punctures. Labrum 7-setose, with distinct isodiametric reticulation. Mandibles stout, strongly, regularly broadened basally, gently curved at apex, carinae of scrobe complete, both mandibles distinctly rounded towards base. Antennae of moderate length, antennomeres 5-10 barely transverse.

Pronotum. Square, in HT 1.15 times as broad as long, 1.48 times as broad as head, sides almost straight, very slightly rounded before posterior angle, slightly converging anteriorly. Anterior margin between slightly protruding, moderately narrowly rounded anterior teeth slightly concave. Reflexed lateral margin irregularly, rather deeply dotted; lateral channel moderately deep and extremely broad in its whole length, its bottom with moderately deep, irregular pits and cross-striae. Anterior SP above anterior third, laterally adjoining convexity of pronotum, posterior SP at level of posterior angle, removed from lateral channel less than by diameter of posterior SP; posterior angles developed as large and sharp tooth. Anterior transverse line deep and broad laterally, in middle shortly, abruptly interrupted; median line

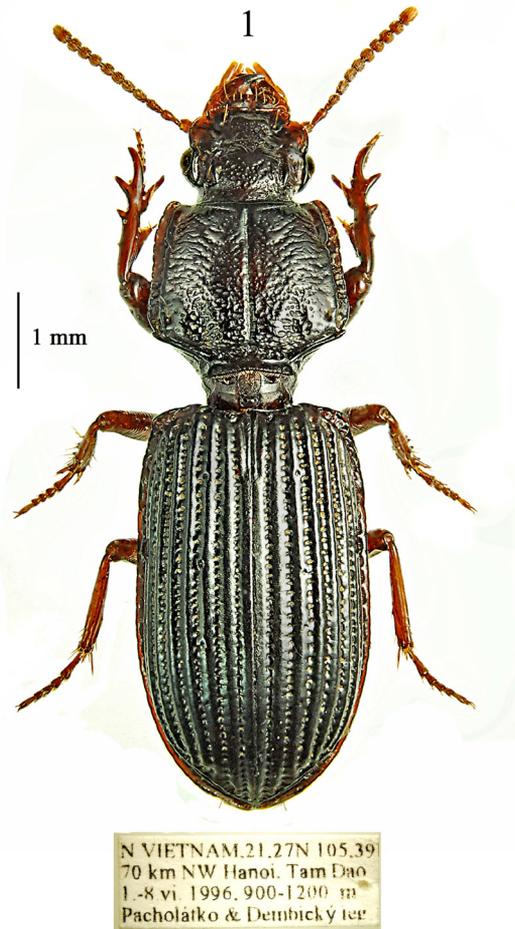
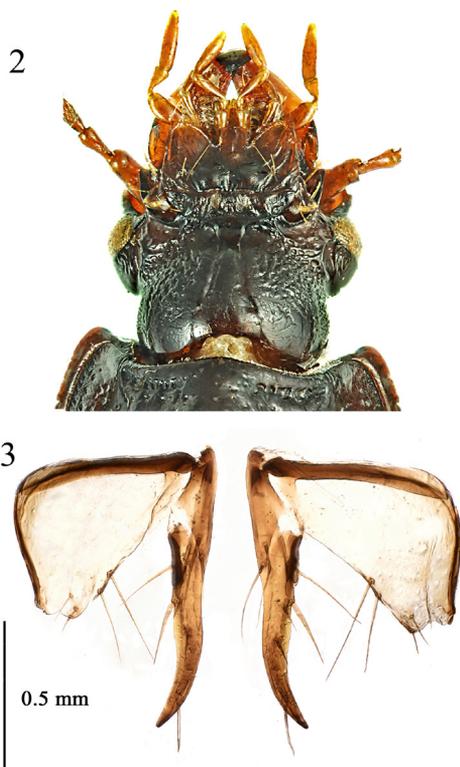


Fig. 1. *Oricitites ninosuttoi* sp. nov., habitus of HT.



Figs. 2-3. *Oricites ninosuttoi* sp. nov. (HT): 2- head from ventral view; 3- stylomeres.

punctuate throughout.; striae 1-6 not joining at apex, striae 6 and especially 7 slightly shortened at base; striole distinct, interval between striole and suture anteriorly costiform raised. All intervals strongly convex; 4 basally, 5 in anterior half and 6-8 almost in its whole length costiform raised; 2-4 with elongate tubercle at base. Intervals moderately shiny on disc, interval 1-2 along suture, lateral two intervals and base with fine reticulation. Interval 3 with four DSP in / near stria 3.

Ventral surface. With exception of disc of meta- and mesosterna and inner part of prosterna whole surface covered with rather irregular, fine isodiametric reticulation. Epipleura broadened and with rough punctures in basal quarter. Proepisterna and episterna covered with rough punctures, prosternite almost smooth at middle, with confluent double keel at middle, mesosternum smooth at middle. Sternites with rather large punctures latero-apically, 3-5 with paralateral ambulatory SP at each side, ventral strigae distinct. Terminal sternite with two apical SP at each side widely distant. Apical maxillary and labial palpomeres slender, straight, latter slightly longer than second segment, second segment bisetose. Ventral surface of neck with isodiametric reticulation and rough and dense

deep, very broad, basally roughly punctuate, barely deeper and broader basally, joining base. Surface with dense and extremely large punctures, especially along median line and in / around basal impressions; antero-laterally surface with some rough wrinkles. Basal impressions very broad and irregular. Lateral channel medially divided from disc by blunt keel, latter (sub) parallel with lateral reflexed margin; flange in lateral view keel-like raised.

Elytra. Subcylindrical, sides in middle third subparallel, in HT 1.80 times as long as broad, 1.15 times as broad as pronotum, 2.38 times as long as pronotum; marginal channel broad, completely visible from above, with uninterrupted, dense row of large SP arising from broad tubercles, with additional, indistinct row of small punctures laterally. Reflexed margin below humeri with rather large, narrowly rounded tooth and with several notches below humeri: deeper and broader in about anterior third, finer apically and almost diminish at apical third; lateral channel broad throughout. Basal tubercle distinct, base with SP at declivity of first stria. Striae 1-4 free at base, all striae deep and very broad throughout; very roughly

punctures; submentum and mentum as in Fig. 2, distinctly separated; submentum with four SP in about same distance; mentum at base medially with rounded elevation, laterally with some fine longitudinal carinae, laterally with subparallel reflexed margins, lateral lobes projecting, acute-angulated at lateral tips, with one seta near base of each lobe. Median tooth anteriorly formed by moderately sharp tooth, not as far projecting as lateral lobes, with moderately large pit just before tip.

Legs. Anterior tibiae with strong digitation, curved barely outwards and strongly downwards and with two large, rather sharp and one small and sharp lateral preapical denticles; apical spine distinctly curved downwards, without dorsal furrow, basal metatarsomeres about as long as about following two combined. Mesotibiae with apical spine nearly at its apex, furnished eccentrically with strong seta.

Female genitalia. As in Fig. 3. Gonapophyses consisting of monomer stylomeres, not articulated, slightly curved. Laterotergites IX normally developed and well sclerified, each with four marginal bristles: two large in middle and two small marginal ones.

Diagnosis. According to Balkenohl (2017a, b) *O. ninosuttoi* sp. nov. belongs to the subgenus *Semictites* Balkenohl, 2017 due to its above described shape of the anterior margin of the clypeus without teeth as well as its relatively short mandibles. The new species can be clearly differentiated from all to date known species of the subgenus by the much more rugose / punctuate pronotal surface and especially by having the elytral striae very roughly punctuate and the intervals (5)6-8 costiform raised. Its body size is also different, mostly larger (in most remaining species of the subgenus is the body length below 7.5 mm; only in *O. orbachi* Bulirsch & Magrini, 2022 is length 8.3-9.5 mm). The latter named species (recently described also from North Vietnam) is the only / most similar species by having the head with rough surface (in comparison to all remaining species); by the elytra with the humeral tooth and four DSP nevertheless *O. ninosuttoi* sp. nov. can be easily differentiated from *O. orbachi* by the body being smaller and especially by elytra having extremely large striae punctures. The latter character is unique within the subgenus.

Name derivation. We dedicate with great pleasure this new species to our friend Amorino “Nino” Sutto (Prato, Tuscany, Italy), who spent his very long entomological life with the study and collecting of Coleoptera and Lepidoptera.

Genus *Rugilolivina* Balkenohl, 1996

Type species: *R. reticulata* Balkenohl, 1996

***Rugilolivina hartmanni* sp. nov.**

(Figs. 4-10)

Type material. Holotype (♂): China, S - Yunnan / Prov. Xishuangbanna / Jinghong city / Ufer d. / Mekong, 10.xii.2007 // 22°00.42'N 100°04.14'E / leg. A. Weigel (NKME). Paratype (1 ♀): with the same data as holotype (PBPC).

Description. Body as in Fig. 4. Dorsal and ventral surface shiny, yellowish brown, apex of mandibles slightly darker, other mouthparts, antennal base, elytra in HT, intermediate and hind legs very slightly lighter. Measurement: total length 6.90 mm in HT, 6.50 mm in PT; width 1.70 mm in HT, 1.60 mm in PT; pronotum in HT and PT 1.02 times as long as broad; in HT 1.28, in PT 1.24 times as broad as head; elytra in HT 2.28, in PT 2.24 times as long as broad, in HT 1.13, in PT 1.14 times as broad as pronotum; length of aedeagus in HT 1.18 mm; aedeagus 0.31 times as long as elytra.

Head. Clypeus wide, anterior margin almost direct between small, sharply projecting lateral teeth, transversal furrow moderately deep and broad; lateral wings 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 sublongitudinal fine 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 about eight irregular pairs of longitudinal carinae, latter subparallel laterally, sparser and strongly convergent on clypeus and 3-4 outer ones irregularly connected on neck, more or less forming irregular letters “u”. Neck without constriction. Eyes of moderate size, convex, strongly protruding. Genae indistinct. Antennae moderately long, segments 6-10 submoniliform, seta on scapus situated dorso-frontally at apical tip, segment 2 attached eccentrically to scapus. Labrum wider than clypeus, bilobed, distinctly excised at middle, 6-setose (three pairs of lateral and none 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, as far advanced as anterior margin. Posterior angles very blunt, hardly visible in dorsal view, more distinct in lateral view. Lateral



Fig. 4. *Rugiloclivina hartmanni* sp. nov., habitus of HT.

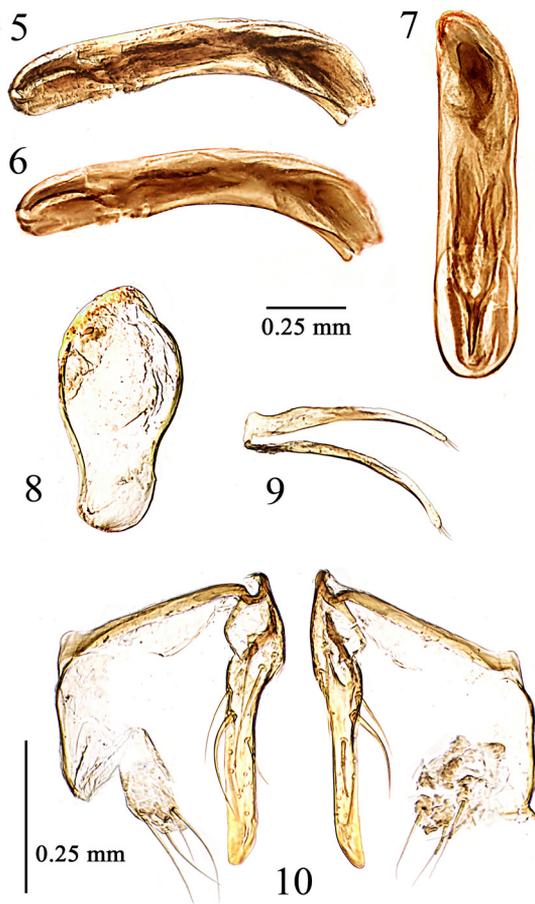
border rounded at anterior angles and before posterior SP, almost parallel at middle. Posterior SP situated in distinct fovea, removed from lateral channel by diameter of pore. Reflexed margin fine in whole length, latero-basally just concave before base (basal flange). Anterior transverse line deep, broad, complete, joining median line, latter barely finer, complete, broad anteriorly, distinctly narrower basally. Surface smooth on disc, with rather rough isodiametric reticulation at base, basal impression inside posterior SP very fine with longitudinal group of punctures and rugae, forming irregular rest of y-impresion, some short, broad and irregular rugae anteriorly, especially in / below anterior angles.

Elytra. Cylindriform, very slightly dilated in apical half, barely contracted to humeri. Humeri distinct, 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 intervals 2-4 very small, almost indistinct;

striae finely, almost regularly punctuate, 1-4 free at base, 5 and 6 joining just below humeri. Intervals convex, 7 distinctly carinate at humeri and apex, 8 in its whole length, slightly finer in midlength. Marginal channel with uninterrupted series of SP barely wider situated at middle. Third stria with four DSP. 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 distinct isodiametric reticulation, some transverse wrinkles laterally, submarginal furrow complete. Epipleura with row of punctures. Abdomen



Figs. 5-10. *Rugiloclivina hartmanni* sp. nov. 5-9 (HT), 10 (PT): 5- median lobe of aedeagus in lateral view (in euparal on vinyl acetate); 6- median lobe of aedeagus in lateral view (on perspex); 7- median lobe of aedeagus in ventral view (on acetate); 8- urite IX; 9- parameres; 10- stylomeres.

with distinct isodiametric reticulation, ventral strigae distinct, terminal segment with rough subtransverse rugae, two apical SP widely separated.

Legs. Protibia with fine, more or less complete sulcus dorsally, lateral upper spine wide, ensiform, turned distinctly ventrally and laterally; movable spur shorter than spine, slightly explanate at apex, sharp, turned slightly ventrally, three praeapical lateral denticles wide, ensiform, obliquely truncated. Intermediate tibiae with distinct spur (sub) apically, spur with eccentric seta, tibia not hirsute on inner side.

Male genitalia (Figs. 5-9): Median lobe laterally as in Figs. 5-6, almost straight at middle, moderately arcuate apically; in lateral view as in Fig. 7, outline subparallel, apex broadly rounded. Urite as in Fig. 8; parameres as in Fig. 9, slender, slightly twisted, with three apical bristles.

Female genitalia. As in Fig. 10; stylomeres with laterotergites IX globiforms, with four marginal bristles.

Differential diagnosis. According to key in Balkenohl (2018) and study of the related species, the new species is most related to *Rugiloclivina wrasei* Balkenohl, 1996 but it differs mainly in the following characters: the body is distinctly larger (4.6-5.3 mm in the latter species); the antennae are longer (the segment 6-10 are moniliform in the latter species); in the pronotum is the reflexed margin concave before base (direct in the latter); the elytra have much more deeply punctuate striae and less developed basal tubercles; and finally the aedeagi are different (as in Figs. 4-8 and in Fig. 10 in Balkenohl (1996)).

Name derivation. Patronymic, in honour of my friend Matthias Hartmann (NKME), for his long-term help in my study of scaritins.

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REFERENCES

- ANDREWES H. E. 1931: On the Carabidae of the Mount Kinabalu. *Journal of the FMS Museum, Kuala Lumpur*, 16: 431-485.
- BALKENOHL M. 1996: New Clivinini from the Oriental Region (Coleoptera, Carabidae, Scaritinae). *Acta Zoologica Academiae Scientiarum Hungaricae* 42: 23-40.
- BALKENOHL M. 1999: New Clivinini from the Oriental region 2. *Clivina rugosofemoralis* nov. spec. and *Rugiloclivina leonina* nov. spec. from Laos (Coleoptera, Carabidae, Scaritinae). *Linzer Biologische Beitrage* 31: 337-344.
- BALKENOHL M. W. 2015: *Rugiloclivinas promineoculata* sp. nov., eine auffällige, neue Art aus Laos (Coleoptera, Carabidae, Scaritinae). *Contributions to Natural History* 29: 1-11.
- BALKENHOL M.W. 2017a: Revision of the genus *Oricittes* Andrewes (Coleoptera, Carabidae, Clivinini). *Contributions to Natural History* 35: 1-66.
- BALKENHOL M.W. 2017b: *Oricittes* Andrewes, 1931, from South East Asia: Second part of the revision with descriptions of five new species and update of the identification key to the species (Coleoptera: Carabidae: Clivinini). *Belgian Journal of Entomology* 57: 1-21.

- BALKENOHL M. W. 2018: Notes on Oriental Clivinini and the description of two new species (Coleoptera: Carabidae: Clivinini). *Linzer Biologische Beiträge* 50: 197-215.
- BULIRSCH P. & MAGRINI P. 2022: A new species of the genus *Orictites* Andrewes, 1931 from Vietnam (Coleoptera: Carabidae: Scaritinae: Clivinini). *Studies and Reports, Taxonomical Series* 18(1): 1-6.

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