

## **Key to the American genera of Clivinini RAFINESQUE, 1815 (Coleoptera: Carabidae: Scaritinae), with descriptions of a new subgenus and two new species of *Oxydrepanus* PUTZEYS, 1866**

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### Abstract

A key to the American genera of Clivinini RAFINESQUE, 1815 (sensu DOSTAL 2017) is introduced. *Oxirius* subgen.n., a new subgenus of *Oxydrepanus* PUTZEYS, 1866 (Clivinina) is described based on the type species, *Oxydrepanus (Oxirius) bulirschi* sp.n. from the Amazonian Basin. In addition, *Oxydrepanus (Oxydrepanus) valdesi* sp.n. from Peru is described.

Key words: Coleoptera, Carabidae, Scaritinae, Clivinini, key, *Oxirius*, South America, Amazonian Basin, new subgenus, new species, Brazil, Peru.

### Zusammenfassung

Eine Bestimmungstabelle für die amerikanischen Gattungen der Clivinini RAFINESQUE, 1815 (sensu DOSTAL 2017) wird vorgestellt. *Oxirius* subgen.n., eine neue Untergattung von *Oxydrepanus* PUTZEYS, 1866 (Clivinina), wird auf Grundlage der Typusart, *Oxydrepanus (Oxirius) bulirschi* sp.n. aus dem Amazonasbecken beschrieben. Ergänzend wird *Oxydrepanus (Oxydrepanus) valdesi* sp.n. aus Peru als neue Art erkannt.

### Introduction

Among undetermined material in the first author's collection, two specimens of *Oxydrepanus* PUTZEYS, 1866 from South America were found, that could not be assigned to any of the hitherto described species. One of them differs strongly from all known *Oxydrepanus* species, which justifies the establishment of a new subgenus described below.

### Material and methods

The key is based on the systematic study by DOSTAL (2017).

For the description of new taxa, preserved specimens from the first author's private collection and from the Smithsonian Institution, National Museum of Natural History, Washington, USA (NMNH), were used. Specimens are mounted on commercially available, triangular paper cards.

The species description is based on the most distinguishing external characters as defined by BAEHR (2008: 9) and DOSTAL (2015: 20). Dorsal pores are counted including the preapical puncture. Label data for examined material are given in full length, with exact label wording.

All investigations were performed with a Leica MZ16 binocular microscope with a Planapo 1.0× objective. Measurements were taken with a calibrated Leica ocular scale at absolute magnifications of 98.1× for pronotal length and width, and 39.1× for all other measurements.

- L total body length in mm, from apex of mandible to apex of elytra.  
 W maximum body width in mm, situated at apical third or near mid-length of elytra.  
 PL maximum pronotum length in mm, measured along median line from base of anterior bristle fringe to base of posterior one.  
 PW maximum pronotum width in mm, measured normal to midline (in most cases situated close behind middle).  
 P-LW length-width-index of pronotum (PL : PW); if the value is smaller than 1, it means that the pronotum is wider than long, for values above 1, the pronotum is longer than wide.

E-LW length-width-index of both elytra, calculation same as previous.

DI/Dr number of dorsal pores in third interval of elytra (l = left, r = right side).

Digital photographs were taken with a Leica DFC camera attached to a Leica MZ16 binocular microscope with the help of Leica Application Suite V3, and stacked with Zerene Stacker 64-bit. Processing of images was performed with Adobe Photoshop 7.0.

## Taxonomy

### Key to the American genera of the tribe Clivinini RAFINESQUE, 1815

- 1 Frons with one or more longitudinal carinae, and clypeus distinctly dentate; denticulations small, narrow-based, if bidentate, teeth near to middle. **Subtribus *Schizogeniina* DOSTAL, 2017** ..... 4
  - Structure of frons variable, but never carinate in combination with dentate clypeus; in dubious cases clypeus truncate and/or sides of clypeus pronounced as lobes. .... 2
- 2 Lateral border of pronotum building contour of pronotum as seen from above; proepipleura not visible from above. Antenna pubescent from antennomere 3 onwards (except for *Cryptomma* from northwestern South America, with strongly wrinkled surface and deeply notched sides of pronotum). **Subtribus *Clivinina* RAFINESQUE, 1815** ..... 7
  - Lateral border of pronotum indicated only in or shortly behind front angles, or bent inwards in posterior half and not building contour of pronotum as seen from above; proepipleura more or less distinctly visible from above. Antenna pubescent from antennomere 1, 2, or 3 onwards. .... 3
- 3 Antennomere 2 shorter or about as long as 3, and distinctly shorter than scape; antennomeres 3–10 distinctly longer than wide; antenna pubescent from antennomere 2 onwards. Posterior angles of pronotum rounded, never dentate. Front tarsus of male dilated. Colour brown to black, often with metallic shine and/or apical macula on elytra. Larger species, body length above 3.5 mm. **Subtribus *Ardistomina* PUTZEYS, 1866** ..... 17
  - Antennomere 2 distinctly longer than 3, about as long as scape; antennomeres 3–10 globose or slightly longer than wide; antenna pubescent from antennomere 1, 2, or 3 onwards. Posterior angles of pronotum rounded or with a more or less distinct denticle. Front tarsus of males not or slightly dilated. Colour yellowish to dark

- brown, never black, piceous, with metallic shine, or with apical macula. Eyes often reduced or missing. On average small to very small species, body length below 5 mm.  
**Subtribus Reicheina JEANNEL, 1957** ..... ***Oxydrepanus* PUTZEYS, 1866**
- 4 Pronotum without longitudinal sulci or carinae. Head with 3–4 frontal carinae. Very small species, body length 1.9–2.3 mm; Amazonian Basin. .... ***Baehrogenius* DOSTAL, 2017**
- Pronotum with longitudinal sulci or carinae. .... **5**
- 5 Pronotum with 12 longitudinal, subparallel carinae. Profemur with conspicuous row of 8 round tubercles basally. Median frontal sulcus narrower than the paramedian one. Antennomere 2 unisetose. Colour pale testaceous. Body length 3.6 mm. Brazil: Pernambuco, Atlantic coast. .... ***Psammocoryza* HOGAN, 2006**
- Pronotum with at most one pair of paramedian carinae, with or without paramedian sulci. Profemur without tubercles at base. Median frontal sulcus almost equal or wider than the first paramedian one. Antennomere 2 uni-, bi- or plurisetose. .... **6**
- 6 Antennomere 2 plurisetose. Pygidium without series of longitudinal, paramedian, fine striae. Smaller species, body length below 2.7 mm. Africa, Pacific coast of Mexico, West Indies. .... ***Halocoryza* ALLUAUD, 1919**
- Antennomere 2 except tactile setae on lower surface asetose, bi- or plurisetose. Head with 8–10 longitudinal carinae. Pygidium with fine, but conspicuous crenulate carinae along midline. Larger species, body length 3.2–7.9 mm. .... ***Schizogenius* PUTZEYS, 1846**
- 7 Eyes absent. Labrum 5-setose. Sides of elytra irregularly serrate; elytral interval 3 with at least 7 setae. Pronotum with accessory denticulation behind postangular dentition and with paramedian denticulation at base. Body length 6.5 mm. Mexico: Tamaulipas. .... ***Antroforceps* BARR, 1967**
- Note: BALL (2001), BOUSQUET (2012), and BOUSQUET & SKELLEY (2012) treat *Antroforceps* as a subgenus of *Clivina*, including *C. alabama* BOUSQUET, 2012, *C. rubicunda* LECONTE, 1857 and *C. sasajii* BALL, 2001. However, these species differ from *Clivina* in the 7-setose labrum, shorter, triangular mandibles, not or slightly serrate sides of elytra, pronotum above base without paramedian tubercles, and interval 3 of elytra with 5 dorsal pores, all systematically extraordinarily important characters that lead to treat *Antroforceps* as defined by BARR (1967) different from *Clivina*.
- Eyes present. Labrum 2–7-setose. Sides of elytra not or slightly serrate. Elytral interval 3 without or with 2–5 setae. Pronotum with or without accessory denticulation at base. .... **8**
- 8 Sides of pronotum deeply notched with about 5 incisions, each of which is provided with a seta. Surface of head and pronotum more or less uniformly coarsely wrinkled. Eyes small; postorbita strongly developed, about 2–3× as long as eye, forms an obtuse angle with neck; elytra strongly narrowed anteriorly, at base much narrower than pronotum. Interval 7 of elytra elevated keel-like in entire length. Dorsal setiferous pores in intervals 3, 5, and 7. Body length about 10.5 mm. Colombia, monobasic. .... ***Cryptomma* PUTZEYS, 1846**
- Sides of pronotum without deep notches, or, if present, without setae. Surface of head and pronotum not uniformly coarsely wrinkled. Eyes large, convex, postorbita not, rudimentarily, or distinctly developed. Elytra less strongly narrowed anteriorly, at base not much narrower than pronotum. Interval 7 of elytra not elevated keel-like in entire length, at most carinate behind humerus. .... **9**
- 9 Base of pronotum with a short, steep declivity above peduncle; upper edge without margination; between postangular seta and peduncle with a strong keel, medially of it

- with a short longitudinal impression; sides of pronotum between marginal setae with a wide and deep lateral channel. Shape of pronotum more or less quadrangular, dorsally flattened. Labrum 6–7-setose. Colour black. Body length about 14mm. Amazonian Basin. .... ***Climax* PUTZEYS, 1863**
- Base of pronotum without steep declivity above peduncle, without keel between post-angular seta and peduncle; base above peduncle with or without margin. .... **10**
- 10 Interval 3 of elytron without setiferous pores. .... **11**
- Interval 3 of elytron with setiferous pores. .... **12**
- 11 Mentum with elevated, keel-like median tooth, laterally with a deep fossa, lateral parts thick and steep. Elytral striae at least basally and apically with deeply impressed punctures. South America: Amazonian Basin, southeastern Brazil. .... ***Pyramoides* BOUSQUET, 2002**
- Median tooth of mentum wide, not entirely elevated and keeled, only at base with a gentle median keel; laterally with a shallow fossa, lateral parts flattened. Elytral striae unpunctured. Central America, monobasic. .... ***Lachenus* PUTZEYS, 1846**
- 12 Interval 3 of elytron with 2 setiferous pores. Pronotum dorsally conspicuously flattened, as wide as long or evidently wider than long. Antennomeres 4–10 longer than wide. Amazonian Basin, Guyana, Haiti, Trinidad, Tobago, Venezuela. .... ***Nyctosyles* PUTZEYS, 1866**
- Interval 3 of elytron with 4–5 setiferous pores. .... **13**
- 13 Proepisternum with stridulation stripe. Americas, Australia. .... ***Semiclivina* KULT, 1947**
- Proepisternum without stridulation stripe. .... **14**
- 14 Labrum 2–3-setose. Eyes flat, laterally slightly protruding. Head elongated in front of eye, about as long as or longer than eye and postorbital region together. Mandibles small, slender, sabre-like. Marginal pores of visible ventral sternum 6 closely set together. Amazonian Basin to Argentina. .... ***Whiteheadiana* PERRAULT, 1994**
- Labrum 6–7-setose. Eyes flat, laterally slightly protruding. Head not conspicuously elongated in front of eye. Mandibles short, broadly triangular. Marginal pores of visible ventral sternum 6 widely set from each other. .... **15**
- 15 Frons deeply concavely excavated at middle. Pronotum with two paramedian stripes of irregular puncturation. Amazonian Basin. .... ***Ancus* PUTZEYS, 1866**
- Frons not excavated. Pronotum without paramedian stripes of puncturation. .... **16**
- 16 Lateral border of pronotum continuously rounded with basal border, which is far distant from peduncular margination; middle part of basal margination not broadened or differentiated from the lateral part; posterior angles broadly rounded, without denticulation. Interval 3 of elytron with 2–5 dorsal setigerous pores. Americas, Australia. .... ***Paraclivina* KULT, 1947**
- Lateral border of pronotum angulately connected to basal border; middle part of basal border usually broader than lateral one; posterior angles sometimes indicated by a small denticle. Interval 3 of elytron with 4 setiferous pores. .... ***Clivina* LATREILLE, 1802**
- 17 Mandibles short triangular, outer edge continuously convex. Striae 3 and 4 of elytron joining basal border in a more or less right angle. .... ***Aspidoglossa* PUTZEYS, 1846**
- Mandibles long and acute, basal two thirds straight, apical third bent inwards. Stria 3 of elytron strongly deepened and keel-like bordered at base, confluent with basal border in a continuous arc. .... **18**

- 18 Proepisternum with stridulation line. Antennomere 2 about as long as 3. Pronotal margin with two setae (marginal seta in the middle and the postangular seta).  
 ..... *Ardistomis* PUTZEYS, 1846
- Proepisternum without stridulation line. .... 19
- 19 Frons laterally with distinct longitudinal furrows. Antennomere 2 evidently shorter than 3. Side margin of pronotum with 2–10 setae. Pronotum base between postangular seta and peduncle not sinuate. Elytron usually with more than one dorsal pore, sometimes numerous setae in different intervals or striae; if with single pore, then joint to stria 3. Labrum with 7 setae. Outer edge of protibia with 3–4 teeth. Colour metallic. ....  
 ..... *Semiardistomis* KULT, 1950
- Frons and clypeus fused, smooth, without furrow. Side margin of pronotum with 2 setae. Pronotum base between postangular seta and peduncle distinctly sinuate. Elytron with single dorsal setiferous pore in stria 2 behind base. Labrum with more than 7 setae. Body length 3.4 mm. Colour dark brown, legs paler. Surface of pronotum and elytra opaque because of microreticulation. French Guyana, monobasic. ....  
 ..... *Kearophus* DAJOZ, 2004

Note: The description (DAJOZ 2004: 121–123) does not give any information about the length of antennomere 2; in the figure, left and right antennomeres are different in length, but as there are other characters typical for *Ardistomina*, it is assumed that antennomere 2 may be as long as or shorter than 3. The hypothetical reconstruction of antenna by ERWIN (2011: pl. 24) shows antennomere 2 longer than 3.

#### Key to the subgenera of *Oxydrepanus*

- 1 Eyes reduced to few, not more than 5–6 ommatidia. Gena at least as long as eye. Clypeus and frons glossy, with isodiametric microsculpture. Outline of elytra oval.  
 ..... *Neoreicheia* KULT, 1950
- Eyes not conspicuously reduced. Gena not differentiated from protruding eye, or if so, then conspicuously shorter than eye. Clypeus and frons glossy, with or without isodiametric microsculpture. Outline of elytra more parallel-sided. .... 2
- 2 Front femur with a conspicuously huge curved spine at anterior margin (Fig. 9). Base of elytron unbordered. Metasternum in midline with a big, deep, funnel-shaped fovea (Fig. 8). Body length above 4.5 mm. .... *Oxirius* subgen.n.
- Spine at anterior margin of front femur small and inconspicuous. Base of elytron distinctly bordered or if unbordered, extremely small, body length below 2 mm (in *O. minimus*). Metasternum in midline with an indistinct fovea. Body length clearly below 4 mm. .... *Oxydrepanus* PUTZEYS, 1866

#### *Oxydrepanus* subgenus *Oxirius* subgen.n.

Type species: *Oxydrepanus (Oxirius) bulirschi* sp.n., by monotypy.

Diagnosis: A small clivinine genus of the subtribe *Clivinina* s.str., distinguishable by a hook-like dentition on profemur, a straight outer edge of protibia, which is prolonged to a strong straight terminal tooth (like in the genus *Dyschirius*), and by unbordered sides of pronotum.

Description: Body shape: elongated, pedunculate, convex from side to side, slightly flattened from above.

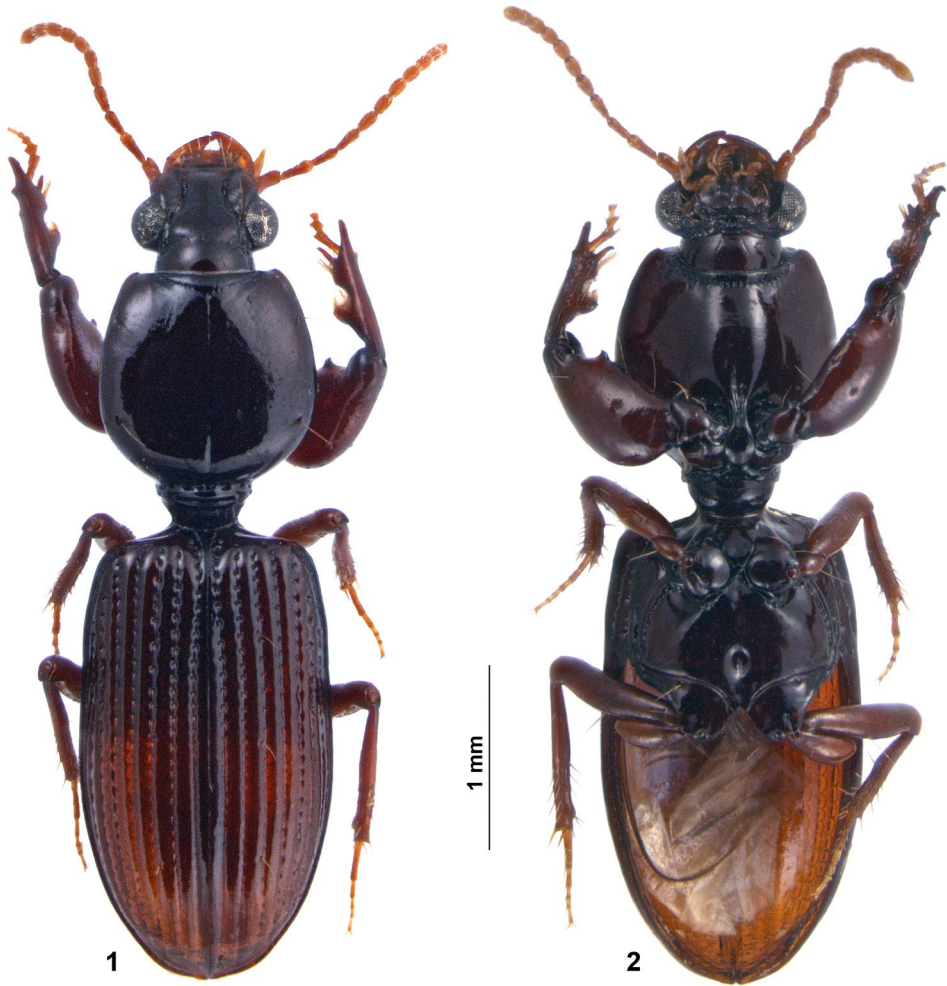
Head (Figs. 1–4): Eyes fully developed, convex, postorbital area rudimentarily developed. Mandibles more or less symmetrical, centrally keeled in basal half of upper surface, flat, without lateral groove. Labrum symmetrical, anterior border straight, basal membrane not visible from above, 6-setose. Anterior clypeal margin straight, slightly concave; lateral lobes homogenously fused with median part, clypeus with one seta on each side. Preorbital plate covering base and insertion of scape. Head without arcuate frontal furrows separating eyes and temples from frons; two supraorbital setae. Scape of antenna unisetose; antennomeres 2–11 pubescent, without glossy areas in middle.

Maxillary palpomeres (Fig. 5) without pubescence; last labial palpomere with some small, fine setae and two big setae on outer edge. Maxillary palp (Fig. 5) not longer than head, last palpomere pear-shaped, outer edge straight, inner one enlarged in basal half, last maxillary palpomere about three times as long as penultimate one, continuously narrowed towards apex. Last labial palpomere pear-shaped, outer and inner edge more or less equally convex, apex with slight pin-like deduction (Fig. 6), penultimate labial palpomere unisetose. Apex of glossa obtusely triangulate, unisetose. Lacinia sickle-shaped in apical half, apex hooked inwards with a narrow, sharp tip, inner edge with about 7–8 thick, short setae. Galea short, fusiform, slightly shorter than lacinia (Fig. 5). Stipes of maxilla with three small and one very long setae in basal half.

Pronotum (Figs. 1, 2) slightly narrower than elytra, moderately convex. Basal angle without denticle. Lateral margin unbordered, fine traces in anterior angles only, unbordered from postangular seta to peduncle; two marginal setae, one just behind anterior angle, the other one at posterior angle that is not indicated. Base bordered above peduncle, with 5 small, round, deep foveae. Posterior part of proepisterna slightly distended and visible from above. Median and anterior transversal sulcus clearly impressed, middle sulcus reaching peduncle.

Elytra (Fig. 1) covering abdomen, as seen from above; apices jointly rounded. Scutellum visible, restricted to peduncle; scutellary pore very fine at basal end of first stria; scutellary striole lacking. Base of elytra unbordered. Humerus without denticle. Elytra with deep lateral channel extending from humerus to apex, separating mesal elytral intervals from lateral margin. Row of umbilical pores in entire length of marginal channel, but with a gap in the middle about 7 pore diameters wide. Elytron with 8 striae; stria 8 forming the lateral channel. Intervals in about same width; without recurrent groove at apex; interval 3 with three setiferous pores; interval 8 carinate in front of apex and sharply bordering lateral channel; lateral channel almost equally wide over entire length, but slightly narrowed basally. Hind wings fully developed (Fig. 10).

Ventral surface (Figs. 2, 7, 8): Metacoxa posteriorly passing posterior margin of first visible abdominal sternum; abdomen with six visible sterna. Visible ventral sternum 2 with paramedian, oblique intercoxal sulcus (sensu BALL 2001), and with a wide, flat, smooth margin from oblique sulcus to sternum 1, surrounding metacoxa (Fig. 8). Abdominal sterna 3–6 with a basal transversal sulcus and a paramedian setiferous pore on each side. Sternum 6 bisetose on each side of lateral margin, pores widely distant from each other. Intercoxal part of prosternum longitudinally sulcate; prosternal process unbordered. Metasternum longer than mesocoxa in middle, behind mesocoxa about 1.4× as long as mesocoxa; sides bordered with coarse punctures; anterior process broadly triangular, bordered; posterior margin unbordered. Metasternum in midline with a big, deep, funnel-shaped fovea (Fig. 8). Posterior process of metasternum small and bilobed.



Figs. 1–2: *Oxydrepanus (Oxirius) bulirschi* sp.n., holotype (male): Habitus, (1) dorsal view and (2) ventral view (abdomen removed).

Legs (Figs. 1, 2, 9): Procoxa asetose; meso- and metacoxa bisetose. Retrochanter bisetose, distally with a small denticle; meso- and metatrochanter unisetose. Profemur (Fig. 9) on lower edge bisetose, distally with a remarkable, sharp, hook-like, triangular-based tooth, incised between hook and knee. Upper edge of profemur with a single distal seta. Flexor side of protibia asetose, extensor side smooth, bisetose. Mesofemur slender; lower edge bisetose, upper edge with row of 6 short setae; flexor side trisetose, extensor side asetose. Metafemur slender, proximally with a single seta on lower edge, otherwise asetose. Protibia (Fig. 9) with a cleaning incision in distal part of flexor side; outer distal edge prolonged into a conspicuous tooth; distal outer edge of protibia with two triangular, ventrally oriented teeth (protibia tridentate). Mesotibia with longitudinal row of 9 short setae and 3–4 additional setae distally, upper edge with about 9 setae, originating from a small tubercle, without distal spur. Metatibia with about 5 setae distally on flexor side, 5 setae distally on upper outer edge, originating from small tubercles, 3 setae distally on

inner lower edge, extensor side with longitudinal row of about 9 short setae. Meso- and metatibia without additional setae on flexor side as typical for Sparostesina. Tarsi dorsally asetose except for tactile setae, claws simple, without serration. First protarsomere as long as tarsomeres 2–4 together. Male protarsomeres 1–3 with apical fringe of white hairs on lower surface, protarsomere 2 and 3 triangularly enlarged. Metatarsus about as long as half-length of metatibia. Male mesotarsomeres without fringe on lower surface and not enlarged.

Genitalia of male (Figs. 11–14): Median lobe laterally flattened, basal two thirds widely enlarged, fitting left paramere. Left paramere with triangular apex, with two stout setae at tip; shape leaf-like, base deeply incised at inner edge, outer edge bisinuate, about 5× wider than the right one. Right paramere flat, “z”-shaped; apex rounded, with two setae.

Female genitalia: Stylus long and slender, triangulate, straight, slightly bent ventrally.

Comparative notes: *Oxirius* subgen.n. has a strong similarity with *Dyschiriini*. However, the lacinia of the new subgenus is sharply hooked inwards and with acute tip, a character typical for *Clivinini* and a lot of other scaritine genera, while it is apically rounded or at the most somewhat angulate at the mesal margin in *Dyschiriini* (FEDERENKO 1996: 16, figs. 45, 46, 50; 2012: 130). The new taxon is placed in *Oxydrepanus* by the character set described in the key to genera.

There is only one species of the genus *Oxydrepanus* possessing unbordered sides of pronotum: *Oxydrepanus* (s.str.) *minimus* PUTZEYS, 1866. Despite this, the missing lateral border of the pronotum is remarkable within South American *Clivinini*, as all other genera/species have at least a short pronotal margin in the anterior part. The scutellary pore is very fine and situated at the end of the first stria of the elytra; in most other species it is more distinct. The shape of the left paramere is completely different from all other species of *Oxydrepanus*: It is massive, short-oval, leaf-shaped, with a deep longitudinal depression, while slender and narrow in others.

Distribution: Central Amazonian Basin.

Generic epithet: Latinized adjective, arbitrary combination of letters which should be reminiscent of the genus *Oxydrepanus* and the genus *Dyschirius* BONELLI, 1810, namely the dyschiriiform protibia.

### ***Oxydrepanus (Oxirius) bulirschi* sp.n. (Figs. 1–14, Tab. 1)**

Material examined: Holotype (male): Amazon Santarem coll. Dostal (Wien, Austria). Paratype (1 female): Peru: Loreto, Rio Napo, ExplorNapo Camp, Rio Sucusari, 100 m, 06.06.1992, 03°15'S, 072°55'W, T.L.Erwin, E. & F. Pfuno S., In leaf litter at night along Trocha Pestoso Lot 341, AUP 53273, coll. NMNH.

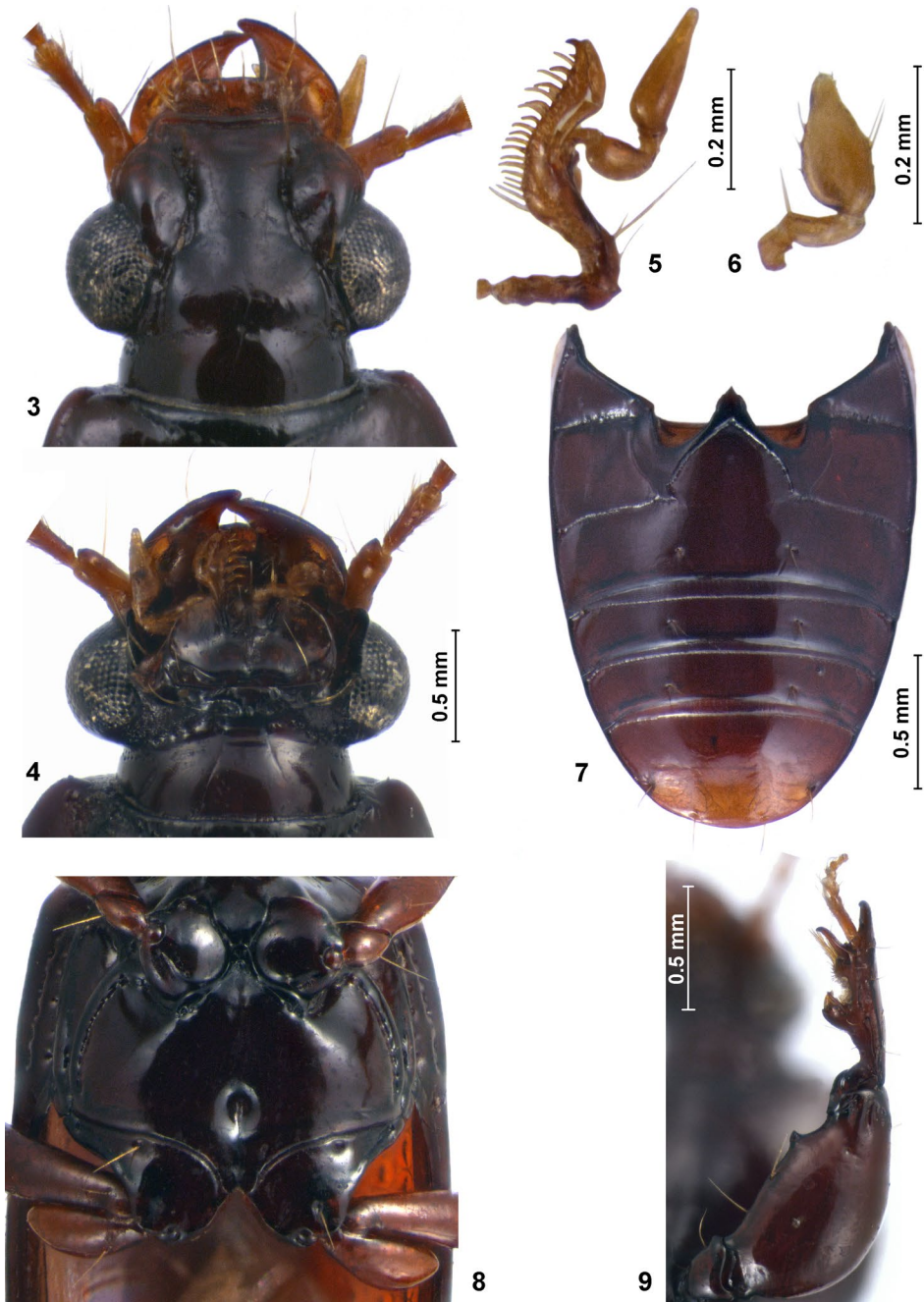
Diagnosis: See diagnosis of the subgenus.

Description: See also description of the subgenus. Measurements (see also Tab. 1): body length 4.69–4.85 mm; body width 1.45–1.48 mm.

Colour: Colour dark maroon; antennae and mouthparts except mandibles lighter, yellowish-brown.

Microsculpture: Glossy. Head with microscopic puncturation. Abdominal sterna 1–2 glossy, with traces of isodiametric microreticulation at sides; microreticulation also on sternum 6 in apical half.





Figs. 3–9: *Oxydrepanus (Oxirius) bulirschi* sp.n., holotype (male): Head, (3) dorsal and (4) ventral view; (5) lacinia and maxillary palp, ventral view; (6) labial palp, ventral view; (7) abdomen, ventral view; (8) metasternum, meso- and metacoxae, ventral view; (9) foreleg, posterior face (ventral view of specimen).

Tab. 1: Measurements and indices of *Oxydrepanus (Oxirius) bulirschi* sp.n. (n = 2) and *Oxydrepanus (s.str.) valdesi* sp.n. (n = 6). L, W, PL, and PW in millimetres.

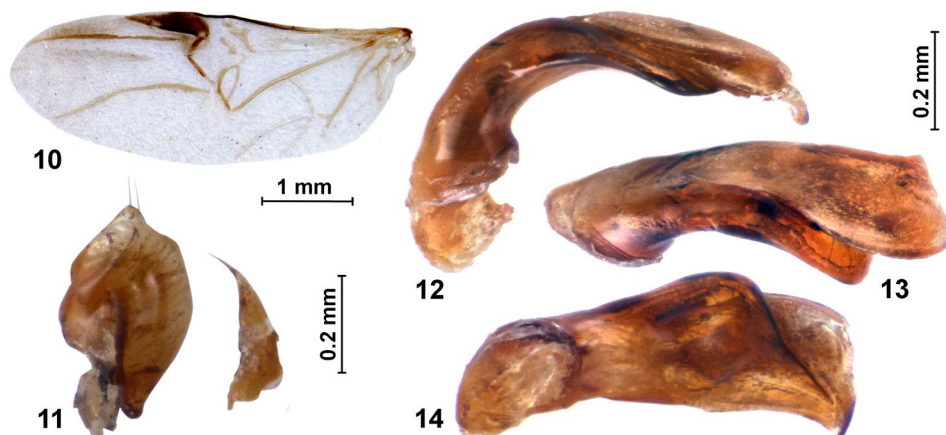
	sex	P-LW	E-LW	L	W	PL	PW	DI	Dr
<b><i>O. bulirschi</i></b>									
Holotype	♂	1.09	1.83	4.85	1.48	1.43	1.31	3	3
Paratype	♀	1.01	1.77	4.69	1.45	1.29	1.27	3	3
<b><i>O. valdesi</i></b>									
Holotype	♂	1.02	1.64	3.01	0.99	0.86	0.85	3	3
Paratype 2	♂	1.00	1.61	2.86	0.97	0.83	0.83	3	3
Paratype 3	♀	0.97	1.62	3.06	0.99	0.85	0.87	3	3
Paratype 4	♀	1.03	1.64	3.42	1.12	0.99	0.96	3	3
Paratype 5	♀	1.00	1.65	3.11	1.02	0.88	0.88	3	3
Paratype 6	♀	0.98	1.67	3.11	0.99	0.83	0.85	3	3

Head (Figs. 1–4): Antenna short, reaching about middle distance between postangular seta of pronotum and base; antennomeres 1–11 longer than wide, antennomere 2 as long as scape and distinctly longer than antennomere 3. Mandibles short, triangular, broad-based, inner and outer edge more or less continuously rounded, with very small basal denticulation. Anterior clypeal margin bordered. Supraantennal plate distended, lateral margin finely bordered, in front of eye somewhat broader. Frons fused with clypeus, convex; frontal furrow small and deep, extending from clypeal seta to posterior supraorbital seta, in middle with deep small fovea. Mesal margin of eye without bordering ridge. Supraorbital seta close to eye. Neck slightly constricted, indicated with single row of punctures interrupted in middle. Eye spherical; postorbital area rudimentarily developed, just completing the outline of eye; posterior edge and neck forming a sharp angle.

Ventral surface of head (Fig. 4): Median tooth of mentum sharp, triangular, keeled, shorter than lateral lobes, at base with pair of setae. Mentum anteriorly narrowed, sides rounded and unbordered, surface smooth; basally with convex transversal torus with lateral seta and pair of deep, round paramedian foveae. Submentum with one pair of setae. Gula very wide, glossy, with weak paramedian microreticulation, smooth in middle.

Pronotum (Figs. 1, 2): More or less quadrangular, sides anteriorly narrowed, slightly convex, 1.08× as long as wide (Tab. 1). Surface of disc glossy, without microreticulation or punctures. Anterior angle very slightly produced forward. Posterior angle completely rounded, only indicated by postangular seta. Anterior transverse sulcus oblique, deep, somewhat crenulate. Median line more shallowly impressed, without crenulation or punctures. Proepipleura, except for small traces of suture anteriorly, completely fused with proepisterna, and the latter completely fused with prosternum, all smooth and glossy.

Elytra (Fig. 1): 1.81× as long as wide (Tab. 1), sides slightly convex, widest in about middle, convex from one side to the other; basal declivity to peduncle obliquely vertical. Surface glossy, smooth, without microreticulation. Base finely bordered from humerus directly to peduncle, lateral channel with umbilical pores ending at humerus, joining stria 5; striae 1–4 free at base. Striae straight, engraved from base to apex, with gross puncturation at base, which becomes finer backwards and almost obsolete at apex. First stria more deeply engraved at base and prolonged to basal declivity. Stria 6 and 7 shortened at humerus. Intervals slightly convex; interval 3 with 3 dorsal pores; preapical pore missing. Humerus without denticle.



Figs. 10–14: *Oxydrepanus (Oxirius) bulirschi* sp.n., holotype (male): (10) Left hind wing, dorsal view; (11) left and right paramere, ventral view; (12–14) median lobe of aedeagus in lateral (12), dorsolateral (13) and ventral (14) view.

Legs (Figs. 1, 2, 9): Dorsal surface of protibia shallowly microreticulated and shortly sulcate proximally; surface of posterior side with two small, sharp denticles at middle, each connected with a sharp and very fine longitudinal ridge in length of half tibia. First tarsomere of foreleg conically shaped, not incised or petiolate, about as long as tarsomeres 2–4 together, without setae or pubescence on dorsal surface.

Ventral surface (Figs. 2, 7, 8): Prosternum with deep, crenulate transversal furrow along anterior margin, not reaching anterior angle. Peduncle glossy. Mesosternum without setae. Epipleura broad in basal quarter, then abruptly narrowed, towards apex evenly narrowed, smooth and glossy; row of coarse punctures along midline at anterior third and along lower edge, becoming finer towards apex. Metepisternum with lateral margin about 2.5× as long as anterior margin, constricted towards apex, smooth and glossy, anteriorly and along metasternum distinctly bordered. Metasternum smooth and glossy, without setae.

Abdominal sterna smooth and glossy; sternum 1 and 2 with central field of very fine and shallow microreticulation; sternum 6 very fine and shallowly microreticulated in apical half.

Genitalia (Figs. 11–14): See description of subgenus.

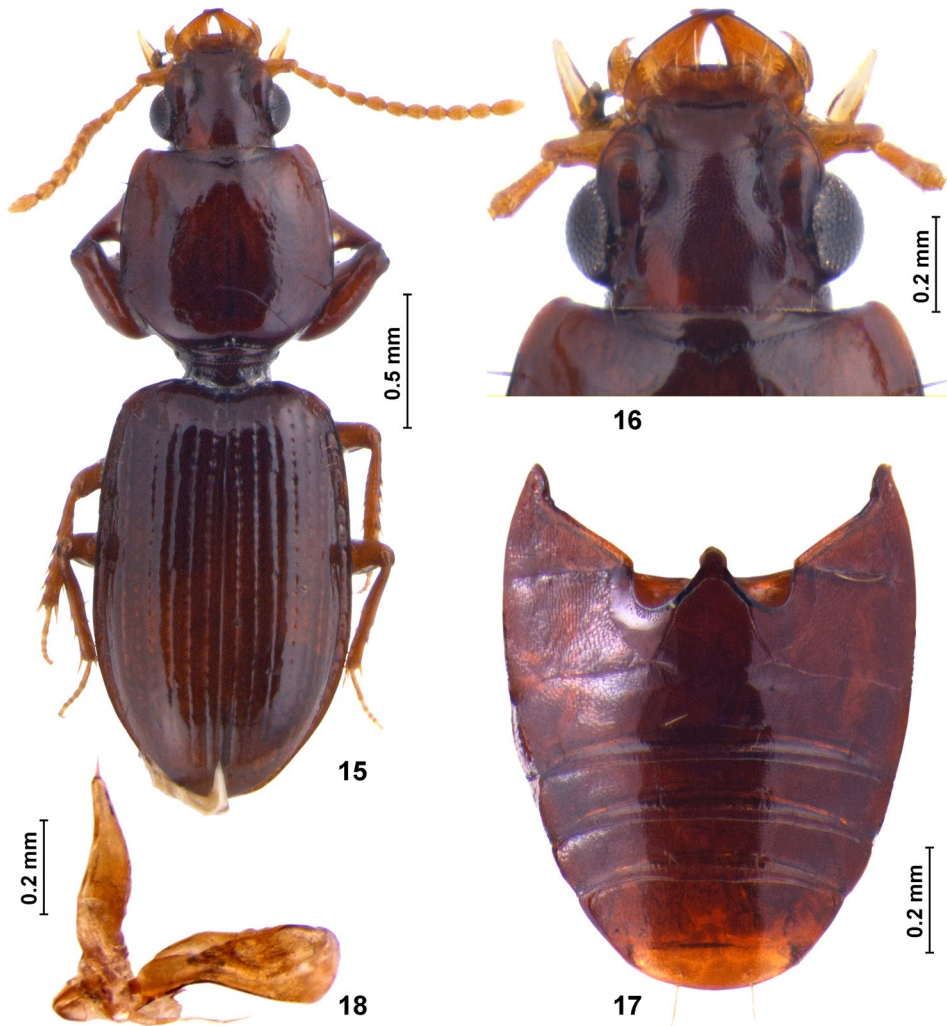
Distribution: Central Amazonian Basin (Brazil, Peru).

Collecting circumstances: According to label data the paratype was collected at night in leaf litter.

Specific epithet: Latinized noun, genitive case, an eponym based on the surname of my colleague and friend, Petr Bulirsch, Prague, an excellent specialist of Carabidae.

#### *Oxydrepanus (s. str.) valdesi* sp.n. (Figs. 15–18, Tab. 1)

Material examined: Holotype (male): Peru, Dep. Huanuco, Rio Liullapichis, 233 m, E.B. Panguana, 1.–24.10.2010, S 9°36.823' W 74°56.127', in coll. Dostal (Vienna, Austria); Paratypes: 1 male, 4 females with same date in coll. Dostal (Vienna) and coll. Vieira (Sao Joao del Rei, Brazil).



Figs. 15–18: *Oxydrepanus (s.str.) valdesi* sp.n., holotype (male): (15) Habitus, dorsal view; (16) head, dorsal view; (17) abdomen, ventral view; (18) aedeagus, median lobe and parameres, ventral view.

**Diagnosis:** A more robust species of the nominate subgenus. Clypeus with anterior margin shallowly obtuse-angled to slightly concave in the middle. Elytral sides smooth, not dentate. Apex of median lobe of aedeagus bent ventrally to a weak hook.

**Description:** Measurements (see also Tab. 1): body length 2.86–3.42 mm; body width 0.97–1.12 mm.

**Colour:** Unicolorous dark reddish-brown, antennae and mouthparts except mandibles lighter, yellowish-brown.

Microsculpture: Glossy. Head with distinct microreticulation on dorsal surface. Pronotum and elytra without microstructure, smooth and glossy. Abdominal sterna 2–6 glossy, microreticulation laterally isodiametric and more distinct, medially more transverse and shallow.

Head (Figs. 15, 16): Antenna short, reaching approximately postangular seta of pronotum; antennomeres 4–10 longer than wide; antennomeres 2–11 pubescent; antennomere 2 shorter than scape or antennomeres 3 and 4 together. Mandibles short, triangular, towards apex sharpened and bent mesally; mesal edge slightly bent, without denticulation; lateral edge slightly rounded. Clypeus with straight anterior margin; lateral lobes slightly protruded; with 6 setae, the lateral ones closer together than the middle ones; middle part fused with wings, posteriorly not delimited from frons; with pair of setae at base of the fine suture between clypeus and supraantennal plate; anterior edge narrowly turned up. Supraantennal plate longer than wide, distended, lateral margin finely bordered. Frons slightly convex; lateral frontal carinae v-shaped in transection; in the middle with a flat longitudinal, kidney-shaped fossa; above mid-level of eye delimited by a short keel; above eye enlarged bearing the two supraorbital setae, which are not inserted on a tubercle. Neck not constricted, without puncturation on dorsal surface, at sides behind eye with some fine, but distinct punctures. Eye slightly spherical; postorbital area not developed; posterior edge of eye and neck forming an obtuse angle.

Ventral surface of head: Gula wide, diverging posteriad, glossy and smooth, with coarse microreticulation laterally. Submentum with two pairs of setae. Median tooth of mentum triangular, apex slightly bifid, longer than lateral wings of mentum, at base with one pair of setae; mentum wings unbordered, with slightly convex sides, anteriorly broadly rounded, surface glossy, but with distinct microreticulation. Mentum with convex transverse torus in the middle of base, which is somewhat distended paramedially, more laterally with pair of basal setae; below the distention with paired deep, almost transversely-oval foveae.

Pronotum (Fig. 15) slightly convex, about as long as wide (Tab. 1), with a more convex declivity to base; sides very slightly convex, widest behind middle, more constricted anteriorly. Surface glossy, without microreticulation on disc. Anterior angle slightly protruded. Posterior angle rounded, not breaking outline of pronotum, without denticle. Sides completely, finely bordered between anterior angle and base, somewhat more widely around postangular pore. Basal border above peduncle, basal channel distinctly broader than lateral one, with some deep punctures. Anterior transversal sulcus oblique, fine and sharp, with traces of crenulation. Median line very fine, sharply impressed, but shallow. Epipleura fused with proepisternum, smooth and glossy. Proepisternum broad, as wide as two thirds of the thickness of pronotum in lateral view; surface smooth and glossy, separated from prosternum by a fine, but distinct suture. Proepisternum narrowly visible from above between postangular pore and base. Prosternum smooth and glossy; transversal furrow punctured along anterior margin; prosternal process keel-like before procoxae, between them enlarged, flattened, slightly longitudinally impressed, unbordered, without setae.

Elytra (Fig. 15) about 1.6× as long as wide (see Tab. 1); sides almost straight in basal half, slightly rounded in apical half, slightly constricted towards base, widest behind middle. Elytra convex from one side to the other; basal declivity to peduncle obliquely vertical. Surface glossy, smooth, without microreticulation. Base strongly bordered from humerus to peduncle. Lateral channel with umbilical pores ending at humerus at stria 5. Striae 1–4 free at base. Scutellar striole missing. Scutellar pore fine, at the basal end of

first stria, located at basal declivity. Elytron with 7 distinct striae. Striae straight, almost not engraved, but distinctly punctured at base, more distinctly engraved towards apex, punctured in their whole length, somewhat wider at base. Striae almost obsolete at apex. Intervals of elytra almost equally wide. Elytron with 3 dorsal pores (including preapical pore) in third interval. Umbilical pores in lateral channel (interval 9) close together over entire length, but with short gap in the middle; here also lateral channel slightly narrower. Humerus rounded, with sharp, elevated denticle.

Legs: Protibia with two small, short teeth at proximal outer edge; terminal denticle long, slender, distinctly bent ventrally; upper surface glossy with fine microreticulation, with fine longitudinal sulcus between incision and base; surface of posterior side with two shallow denticles in distal half. Basal tarsomere of foreleg almost cylindrical, not incised or petiolate, about as long as tarsomeres 2–5 together, without setae or pubescence on dorsal surface. Lower edge of profemur bisetose, one long seta in the middle and a short one proximally; distally with a short, hook-like, triangular-based dentation, between hook and knee not incised. Upper edge of profemur with a single distal seta. Flexor side of protibia asetose; extensor side smooth, bisetose. Upper edge of mesotibia with 4–5 serrate pores bearing short setae, without distal setiferous spur. Meso- and metatibia at flexor side asetose.

Ventral surface: Peduncle glossy. Mesosternum without setae. Elytral epipleuron broad in basal quarter, then abruptly narrowed, towards apex evenly narrowed; glossy, with microreticulation, with a flat, oblique medial depression at anterior third; along metepisternum with some shallow and one deep fossa. Metepisternum with lateral margin about 2.4× as long as anterior one, constricted towards apex, glossy, microreticulated, anteriorly finely bordered. Metasternum glossy, behind mesocoxa about 1.5× as long as mesocoxa; median sulcus anteriorly obsolete, distinct and deeper in posterior half. Metasternum between mesocoxae broadly triangular, distinctly bordered, without setae.

Abdomen (Fig. 17): Sterna 2–6 glossy, distinctly isodiametrically microreticulated at sides, without puncturation; microreticulation shallower and more transverse in the middle. Sterna 4–6 with transverse basal sulcus. Sterna 3–5 each with one pair of paramedian setae. In both sexes lateral margins of sternum 6 each with two setae, far apart from each other.

Genitalia of male (Fig. 18): Median lobe dorso-ventrally flattened, widened and club-like towards apex. Apex obliquely rounded, distinctly bent ventrally. Left paramere narrow, longitudinal-triangular, bent s-like fitting median lobe; apex rounded, with two setae at tip. Right paramere very narrow conical, with acute tip bearing a single seta.

Genitalia of female: Stylus long and slender, keel-like, triangular, straight, slightly bent ventrally; apex sharp and distinctly bent ventrally; ventral outer edge with two short, massive setae.

Distribution: Only known from type locality.

Collecting circumstances: Unknown, most probably at light.

Comparative notes: The eyes are not conspicuously reduced, and the gena is not differentiated from the protruding eye, which separates the new species from the subgenus *Neoreicheia*. The small denticulation and the complete lateral border of pronotum differ from *Oxirius* subgen.n. *Oxydrepanus luridus* PUTZEYS, 1866 differs in having four dorsal pores, *O. micans* PUTZEYS, 1866 is shorter, with a body length distinctly below

3 mm; the apex of the median lobe is not hooked. From *O. rufus* (PUTZEYS, 1846) and *O. brasiliensis* PUTZEYS, 1866 the new species differs in having a complete basal border of pronotum from posterior angle to peduncle. *Oxydrepanus minimus* differs in having a bisinuate anterior edge of clypeus.

Specific epithet: Latinized noun, genitive case, an eponym based on the surname of my colleague Pavel Valdes (Havana, Cuba), an excellent specialist of Carabidae.

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### References

- BAEHR M., 2008: The Australian Clivinini 1. The genera *Ancus* PUTZEYS, *Aspidoglossa* PUTZEYS, *Clivinarchus* SLOANE, *Platysphyrus* SLOANE, *Pseudoclivina* KULT, *Rhysocara* SLOANE, *Syleter* ANDREWES, the subgenera *Paraclivina* KULT, *Semiclivina* KULT, and the *atrata*-, *biplagiata*-, *brevicornis*-, *coronata*-, *coryzoides*-, *cribrosa*-, *debilis*-, *denticollis*-, *grandiceps*-, *incerta*-, *lobata*-, *obliquata*-, *obsoleta*-, *orbitalis*-, *planiceps*-, *sulcaticeps*-, *tranquebarica*-, and *wurargae*-groups of the genus *Clivina* LATREILLE. With a note on a record of the genus *Parathlibops* BASILEWSKY (Scapterini) (Carabidae, Scaritinae). – *Coleoptera* 12: 1–220.
- BALL G.E., 2001: The subgenera of *Clivina* LATREILLE in the Western Hemisphere, and a revision of subgenus *Antroforceps* BARR (new status), with notes about evolutionary aspects (Coleoptera: Carabidae: Clivinini). – *Special Publications of the Japan Coleopterological Society Osaka* 1: 129–156.
- BARR T.C., 1967: *Antroforceps*, an eyeless cave scaritine from Mexico (Coleoptera, Carabidae). – *The Coleopterists' Bulletin* 21(3): 65–70.
- BOUSQUET Y., 2012: Catalogue of Geadephaga (Coleoptera, Adephaga) of America, north of Mexico. – *ZooKeys* 245: 1–1722.
- BOUSQUET Y. & SKELLEY P.E., 2012: Description of two new species of *Clivina* LATREILLE (Coleoptera, Carabidae, Clivinini) from southeastern United States. – *ZooKeys* 178: 43–50.
- DAJOZ R., 2004: Notes sur quelques Clivinini d'Amérique du Nord, description de trois espèces du genre *Dyschiriodes*, et d'un genre nouveau de Guyane (Coleoptera, Carabidae). – *Nouvelle Revue d'Entomologique*, N. S. 21(2): 115–123.
- DOSTAL A., 2015: A new subgenus of *Eotachys* JEANNEL, 1941 (Coleoptera: Carabidae), and a new *Eotachys* species from Madagascar. – *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 67: 19–26.
- DOSTAL A., 2017: Comments on the higher systematics of the tribe Clivinini RAFINESQUE, 1815 (Coleoptera: Carabidae: Scaritinae) with definition of two new subtribes and description of *Baehrogenius*, a new genus from South America. – *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* 69: 111–129.
- ERWIN T.L., 2011: A treatise on the Western Hemisphere Caraboidea (Coleoptera). Their classification, distributions, and ways of life. Volume III. Carabidae – Loxomeriformes, Melaeniformes. – Pensoft, Sofia – Moscow, 412 pp.
- FEDERENKO D.N., 1996: Reclassification of world Dyschiriini, with a revision of the Palearctic fauna (Coleoptera, Carabidae). – *Pensoft Series Faunistica* 4, Pensoft Publishers, Sofia – Moscow – St. Petersburg, 224 pp.

FEDERENKO D.N., 2012: Two new scaritine beetles of the genera *Leleuporella* BASILEWSKY, 1956, and *Striganoviella*, gen.n., from Vietnam (Coleoptera: Carabidae). – Russian Entomological Journal 21(2): 127–132.

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