

SHORT COMMUNICATION

Lyalinus, a new genus of Cneorhinini from Burkina Faso (Coleoptera: Curculionidae)

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Abstract. A new genus, *Lyalinus* gen. nov. (Coleoptera: Curculionidae: Entiminae: Cneorhinini) with one new species, *Lyalinus bimaculatus* sp. nov. from Burkina Faso, is described, illustrated and compared with other related genera.

Key words. Coleoptera, Curculionidae, Entiminae, new genus, new species, taxonomy, Afrotropical Region

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Introduction

The appropriate systematic position of entimines with an elongate rostrum has remained unresolved for a long time. They were listed in the tribe Tanyrhynchini Schoenherr, 1826 (for example MARSHALL 1908, SCHENKLING & MARSHALL 1931) until OBERPRIELER (1995). OBERPRIELER (1988) revised Tanyrhynchini and later (OBERPRIELER 1995) clarified the situation by transferring some genera to several different tribes, for the most part to Myorhinini Marseul, 1863, but also to Cneorhinini Lacordaire, 1863, Tanymecini Lacordaire, 1863, and to some others. His analyses and conclusions were based on external characters and he hypothesized that the long rostrum, in many cases also laterally flattened, and laterally and ventrally lacking scales ‘is an adaptation for a highly specialized way of feeding and is therefore likely to have originated independently in many different stocks of adelognathous weevils’ (OBERPRIELER 1995). BOROVEC & OBERPRIELER (2013) subsequently transferred seven genera assigned to Myorhinini to the tribe Embrithini Marshall, 1842. The genera with an elongate rostrum now placed in Cneorhinini, Embrithini, and Myorhinini do not include a great number of species, and are irregularly distributed through the whole of the Afrotropical Region (SCHENKLING & MARSHALL 1931) with a limited number of species of Myorhinini also in the southern part of the Palaearctic and the Oriental Regions (BOROVEC 2013). Myorhinini were revised by MARSHALL (1908), and subsequently several

new taxa were added (AURIVILLIUS 1912; HUSTACHE 1921; MARSHALL 1926, 1938, 1944, 1958; and VOSS 1959, 1960, 1962). Cneorhinini and Embrithini with an elongate rostrum have not been revised since MARSHALL’s (1908) revision, except for the genus *Fleuropus* Hustache, 1931 (KANIA & STOJCZEW 1999). One very exceptional undescribed genus of Cneorhinini has been collected recently in Burkina Faso and its description and position among the other genera is the topic of the present contribution.

Material and methods

Body length of all specimens was measured in dorsal view from the anterior border of eyes to the apex of the elytra, excluding the rostrum. The rostrum width/length ratio was measured as the maximum width at base versus the maximum length to the base of the mandibles. Width/length ratios of pronotum, elytra, antennomeres and tarsomeres were taken at the maximum width and length of the respective parts in dorsal view. Female genitalia were embedded in Solakryl BMX (Medika, Prague); male genitalia were mounted dry on the same card as the respective specimen. The terminology of the rostrum and the genitalia follows OBERPRIELER et al. (2014).

The material is deposited in the Natural History Museum, London, United Kingdom (BMNH) and private collection of Roman Borovec, Sloupno, Czech Republic (RBSC).



Systematics

Lyalinus gen. nov.

Type species. *Lyalinus bimaculatus* sp. nov. by present designation.

Diagnosis. Small genus belonging to Entiminae. Rostrum more than twice as long as wide, equally wide at base and at apex; epifrons separated posteriorly from head by transverse sulcus; frons not separated posteriorly; epistome not differentiated; mandibles multisetose; scrobes laterally placed, furrow-shaped, glabrous, clearly edged, directed to ventral border of eye; eyes subdorsal, vertex slender, vaulted, separated from head behind eyes by transverse sulcus; scape short, slightly exceeding anterior border of eye, as long as funicle; tergite VII in both sexes with concave anterior border; metatibia with wide, densely squamose corbel; ventrites subtriangular with ventrite 2 only slightly longer than ventrite 3 or 4, ventrite 5 narrowly tapered; tegmen lacking parameres; female sternite VIII with plate large, arrow-shaped with ill-defined posterior border and extending along apodeme.

Description. Body length 3.9–5.2 mm.

Body dark brownish to blackish. Dorsal part of body densely covered with regularly rounded appressed isolated scales, greyish with distinct pearly sheen. Ventral part of body covered by the same vestiture, appressed scales on ventrites smaller, denser and oval. Each elytral interval with inconspicuous row of very short subspatulate setae, semiappressed on disc and apical declivity, barely visible in lateral view. Antennal club densely setose; funicle and scape with very small, long oval appressed scales; femora with appressed scales identical to those on dorsal part of body; tibiae and tarsi with appressed oval scales and short, semierect bristle-shaped yellowish setae.

Rostrum 2.4–2.6× as long as basal width, base and apex of equal width, 0.9× as long as pronotum in lateral view, equally wide and shaped in both sexes. Epifrons widest at base, wider than rostrum in dorsal view, evenly tapered apicad from base with straight sides, distinctly carinate laterally, extending apically to level of anterior border of scrobes, flat, with median longitudinal slender carina along whole length, posteriorly separated from head by arched carina creating edge of sulcus separating rostrum from head, laterally reaching below middle of eye. Rostrum dorsally slightly widened before antennal insertion, then subparallel-sided; laterally with ventral border regularly weakly curved and dorsal border in basal two thirds flat to slightly concave and in apical third weakly declined at level of antennal insertion, straight apically. Frons large, glabrous, moderately shiny, not separated posteriorly from epifrons, with 7–8 pairs of long, stout setae prominent laterally and 6–8 pairs of similar setae placed dorsally. Epistome not differentiated. Mandibles small, slender, projecting anteriorly, armed with one small blunt inner tooth, lacking scales, with 6–8 laterally prominent fine setae; deciduous mandibular processes moderately long, straight, unarmed, narrowest at base, sharply carinate along entire external margin, situated at outer part of mandibles; in lateral view evenly triangularly tapered anteriorly with sharp tip. Scrobes placed laterally,



Fig. 1. *Lyalinus bimaculatus* sp. nov., dorsal habitus, male. Scale bar: 1.0 mm.

in dorsal view visible as narrow parallel furrows before the middle; laterally clearly visible along whole length as narrow, straight glabrous furrow directed from dorsal part of rostrum to ventral part of eye, with conspicuous dorsal edge and visible, but less prominent ventral edge. Rostrum ventrally glabrous, with several sparse slender appressed scales. Head wide and short, distinctly enlarged posteriorly, behind eyes smooth, vaulted, separated from vertex by transverse double arched sulcus. Vertex evenly enlarged posteriorly, at base as wide as dorsal width of eyes, distinctly convex with narrow median longitudinal glabrous stria. Eyes large, subdorsal, convex, distinctly prominent from outline of head; laterally a little higher than base of rostrum and much higher than rest of head.

Antennae moderately short. Scape slender, a little exceeding anterior border of eye when held against rostrum, as long as 7-segmented funicle; funicle segments 1–3 long and conical with segment 1 longest, the others isodiametric to slightly wider than long; club with segment 1 subconical, narrow at base and evenly enlarged apicad, comprising half of club length.

Pronotum 1.3–1.4× wider than its width at posterior border; disc regularly convex without any furrow, keel or depression; base slightly arched. Laterally anterior border of pronotum straight without ocular lobes or setae. Procoxal cavities contiguous, round, placed at midlength of pronotum; procoxae subglobular.

Table 1. Comparison of genera of the tribes Cneorhinini and Embrithini with an elongate rostrum.

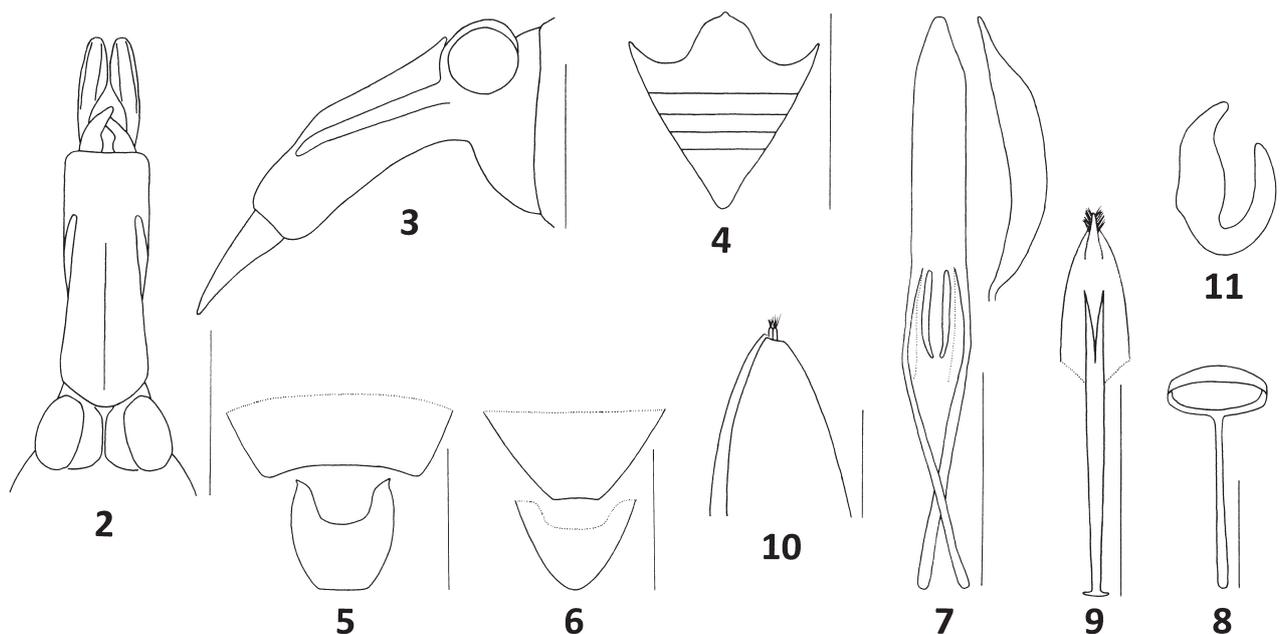
| <i>Lyalinus</i> gen. nov. | <i>Euonychus</i> Marshall, 1923 | <i>Fleurops</i> Hustache, 1931 | <i>Synaptocephalus</i> Faust, 1891 | Embrithini genera |
|--|--|--|--|--|
| rostrum 2.4–2.6× as long as basal width | rostrum 1.6–2.4× as long as basal width | rostrum 1.5× as long as basal width | rostrum 2.2–3.1× as long as basal width | rostrum from 1.6× as wide as long to 3.8× as long as basal width |
| rostrum with base and apex equally wide | rostrum at base 1.3–1.4× as wide as at apex | rostrum at base 1.9–2.3× as wide as at apex | rostrum with base and apex equally wide to base 1.3× as wide as apex | rostrum with base and apex equally wide to base 1.2× as wide as apex |
| rostrum separated from head by slender transverse sulcus | rostrum continuous with head | rostrum continuous with head | rostrum continuous with head | rostrum separated from head by slender transverse sulcus or wide depression |
| antennal insertions in apical third | antennal insertions between apical quarter and midlength of rostrum | antennal insertions at midlength of rostrum | antennal insertions between apical third and midlength of rostrum | antennal insertions between apical third and quarter |
| scrobes narrow laterally, furrow-shaped, directed below eyes | scrobes narrow laterally, furrow-shaped, directed below eyes | scrobes narrow laterally, furrow-shaped, directed below eyes | scrobes wide or narrow laterally, directed towards or below eyes | scrobes dorsal to subdorsal, dorsally pit-shaped to narrowly reniform |
| eyes subdorsally placed | eyes laterally placed | eyes laterally placed | eyes dorsally placed | eyes laterally placed |
| vertex separated from glabrous head capsule behind posterior border of eyes by distinct line | vertex posteriorly continuous with squamose space behind eyes | vertex posteriorly continuous with squamose space behind eyes | vertex posteriorly continuous with squamose space behind eyes | vertex posteriorly continuous with squamose space behind eyes |
| vertex as wide as club | vertex 4× wider than club | vertex 4–5× wider than club | vertex slenderer than club | vertex at least 3× wider than club |
| antennal scape shorter than funicle | antennal scape slightly shorter to equally long as funicle | antennal scape shorter than funicle | antennal scape shorter than funicle | antennal scape equally long as funicle or longer |
| metatibiae with wide, distinct corbel | metatibial corbel wide to narrow | metatibiae with wide corbel | metatibiae lacking corbel | metatibiae with narrow or wide corbel |
| claws of unequal length | claws of equal length | claws of equal length | claws of equal length | claws of equal length, occasionally single |
| ventrite 2 equally long as ventrite 3 or 4 | ventrite 2 slightly longer than ventrite 3 or 4 | ventrite 2 slightly longer than ventrite 3 or 4 | ventrite 2 as long as ventrites 3 and 4 combined | ventrite 2 slightly to distinctly longer than ventrite 3 or 4 |
| ventrite 5 subtriangular, sharply pointed in females | ventrite 5 apically narrowly rounded in females | ventrite 5 apically narrowly rounded in females | ventrite 5 apically narrowly rounded in females | ventrite 5 apically narrowly rounded in females |
| metaventral process narrow, rounded | metaventral process narrow, rounded | metaventral process narrow, arrow-shaped | metaventral process very narrow, arrow-shaped | metaventral process wide or narrow, obtuse |
| tergite VII in both sexes with apical side concave | tergite VII in both sexes with apical side convex | tergite VII in both sexes with apical side convex | tergite VII in both sexes with apical side convex | tergite VII in both sexes with apical side convex |
| penis without apical setae | penis with two tufts of subapical setae | penis without apical setae | penis with two subapical setae | penis without apical setae |
| endophallus with long sclerites | endophallus without sclerites | endophallus with sclerites | endophallus with long sclerites | endophallus with short or long sclerites |
| tegmen with complete ring, lacking parameres | tegmen with complete ring, lacking parameres | tegmen with incomplete ring, lacking parameres | tegmen with complete ring and with parameres | tegmen with complete ring, with or without parameres |
| gonocoxites with short styli | gonocoxites without styli | gonocoxites with long styli | gonocoxites with short styli | gonocoxites with short or long styli |
| spermatheca with differentiated ramus and nodulus and with wide cornu | spermatheca with differentiated ramus and nodulus and with short cornu | spermatheca with differentiated ramus and nodulus and with short cornu | spermatheca with extremely slender cornu and dominant rounded corpus, without differentiated ramus and nodulus | spermatheca with differentiated ramus and nodulus and with mostly long and slender cornu |

Scutellum very small, triangular.

Elytra long oval, 1.2–1.3× as long as wide, at base weakly constricted, without humeral calli, at base equally wide as base of pronotum with slightly arched base, widest at midlength, apically evenly tapered; laterally convex, slope only just overhanging weakly elongate apex. Elytra 10-striate, striae punctate, intervals flat and wide. Mesocoxae semiglobular, mesosternal process very narrow, about as wide as one tenth of mesocoxal width, not reaching posterior margin of mesocoxae. Metacoxae semiglobular,

metaventral process weakly rounded, a little wider than half of transverse diameter of metacoxa. Tergite VII in males short and broad, translucent, with sclerotised very narrow margins, apically concave; tergite VIII in males well sclerotised, bowl-shaped, apically truncate. Tergite VII and VIII in females larger than those in males, weakly sclerotised; tergite VII subtrapezoidal, apically shortly concave; tergite VIII subtriangular, apically rounded.

Legs moderately robust. Femora faintly swollen, unarmed. Protibiae laterally straight, inside sinuate, denticulate



Figs 2–11. *Lyalinus bimaculatus* sp. nov. 2 – head with rostrum, male, dorsal view; 3 – head with rostrum, male, lateral view; 4 – abdominal ventrites, female; 5 – tergite VII and VIII, male; 6 – tergite VII and VIII, female; 7 – penis, ventral and lateral view; 8 – tegmen, dorsal view; 9 – sternite VIII of female, dorsal view; 10 – ovipositor, dorsal view; 11 – spermatheca. Scale bars 1.0 mm for 2, 3, 5–7, 0.5 mm for 4, 8–11.

at apical half with 6–7 well visible brownish teeth, apically rounded and distinctly enlarged inside, densely fringed by yellowish short fine setae, mucronate. Metatibiae with apical surface large, oval, glabrous and with wide, conspicuous, densely squamose corbel fringed externally and internally with long and dense yellowish setae. Tarsi moderately robust, with segment 3 distinctly wider than segment 1 and 2; onychium short; claws solidly fused in basal half, unequally long.

Abdomen ventrally subtriangular, distinctly tapered apicad with almost straight sides, $1.1\times$ as wide as long; ventrite 1 in middle more than $3\times$ as long as ventrite 2, behind metacoxa slightly longer than ventrite 2; ventrite 2 slightly longer than ventrite 3 or 4 and shorter than ventrites 3 and 4 combined; ventrite 5 in males subtrapezoidal, short, obtuse at apex, in females subtriangular, longer, pointed at apex, with weakly concave sides. All sutures straight, deep and moderately wide.

Sexual dimorphism. Sexes externally indistinguishable except for slight difference in shape of ventrite 5.

Male terminalia. Penis slender, long, well sclerotised, temones $1.5\times$ as long as body of penis; endophallus short with two long sclerites. Tegmen with wide small ring lacking parameres, manubrium almost three times as long as diameter of ring, one third as long as penis temones. Sternite IX with spiculum gastrale long, anteriorly curved and enlarged to narrow translucent plate, posteriorly with fused basal arms; sternite VIII with hemisternites slender, curved.

Female terminalia. Sternite VIII with apodeme widest at midlength with transverse anterior bar, apodeme Y-shaped posteriorly, terminating just within basal plate; basal plate arrow-shaped, longer than wide, about third of length of sternite, pointed with apical margin developed and basal margin ill-defined, apex carrying two separate, antepical tufts of setae. Gonocoxites simple, wide and flat, regularly

tapered apicad, with short apical styli bearing apical setae. Spermatheca with regularly curved slender cornu, elongate corpus, short and hardly visible ramus and long nodulus.

Etymology. The new genus is cordially dedicated to Christopher H. C. Lyal, an eminent British curculionologist, and the name is of male gender.

Distribution. Known only from Burkina Faso.

Species included. The genus is described as monotypic.

Remarks. The newly described genus has multisetose mandibles, short antennal scapes, laterally placed scrobes of the 'brachyderinae' type, lateral pronotal border lacking vibrissae, developed metatibial corbels and connate claws, which is a complex of characters typical for the tribe Cneorhinini. In this tribe only three other genera have a rostrum longer than wide as seen in *Lyalinus* gen. nov. – *Euonychus* Marshall, 1923, *Fleurops* Hustache, 1931, and *Synaptocephalus* Faust, 1891. These three genera are rather different and apparently do not form a monophyletic group. The genus *Euonychus* includes two known and another two undescribed species, all restricted to South Africa and Namibia (Borovec, unpublished data).

Fleurops is a monotypic genus known from Uganda, the Democratic Republic of Congo, Burundi and Tanzania (KANIA & STOJCZEW 1999). *Lyalinus* gen. nov. shares the moderately similar body shape and legs, and also the pear-shaped antennal clubs, but differs most clearly in the rostrum and head structure.

Its long rostrum and the subdorsal eyes with slender vertex make *Synaptocephalus* the most similar genus to *Lyalinus* gen. nov. *Synaptocephalus* includes four species known from the eastern part of Africa: Zimbabwe, Zambia, Tanzania, and Sudan (Borovec, unpublished data). It is possible to recognize all four genera based on the characters stated in the Table 1.

Except for the multisetose mandibles, laterally placed scrobes and short antennal scapes, *Lyalinus* gen. nov.

resembles in its general appearance some Embrithini genera with an elongate rostrum, namely the genera *Bicodes* Marshall, 1908, *Goniorhinus* Faust, 1889, *Holorygma* Marshall, 1927, *Lecanophora* Aurivillius, 1912, *Neobicodes* Hustache, 1929, *Sympiezorhynchus* Schoenherr, 1842, and *Zeugorygma* Marshall, 1906. From all these genera *Lyalinus* gen. nov. can also be distinguished by characters stated in the Table 1.

Lyalinus bimaculatus sp. nov.

Type material. HOLOTYPE: ♂, 'Ober Volta [Burkina Faso], Bobo Dioulassa [Bobo-Dioulasso], 9. [19]76, Politzar [Igt.]' (BMNH). PARATYPES: 17 spec., the same data as holotype (16 spec. BMNH, 1 ♀ RBSC).

Description. Body length 3.89–5.25 mm, holotype 3.89 mm.

Appressed scales on elytra and pronotum separated by very narrow spaces, not completely hiding integument. Elytra with distinct small long oval spot from very dense scales behind base on intervals 7–9 and subtriangular small spot at apex of intervals 3–9. Pronotum with longitudinal wide stripes of a bit denser appressed scales surrounding median longitudinal glabrous space. Vertex densely squamose with very slender longitudinal glabrous stria.

Antennal scape weakly regularly curved along its whole length, weakly enlarged in apical quarter, at apex 0.6–0.7× as wide as club. Segment 1 1.8–1.9× as long as wide, 1.5× as long as segment 2 which is 1.5× as long as wide; segment 3 1.3–1.4× as wide as long; segment 4 isodiametric; segments 5–7 1.1× as wide as long; club 2.1–2.2× as long as wide.

Pronotum 1.33–1.41× as wide as long, widest at base, in apical half distinctly more tapered anteriorly than in basal half. Disc shiny, regularly punctate, spaces between punctures shorter than diameter of one puncture.

Elytra 1.24–1.32× as long as wide, with regularly rounded sides. Striae distinctly punctate, space between punctures not deepened; intervals somewhat shiny, with very small, almost indistinct granules. Sutural interval on apical declivity slightly elevated.

Tarsi with segment 1 curved in basal half, 1.6–1.7× as long as wide; segment 2 conical, 1.1–1.2× as wide as long; segment 3 1.3–1.4× as wide as long and 1.4× as wide as segment 2; onychium 0.5–0.6× as long as segment 3.

Penis slightly wider at base, indistinctly tapered anteriorly with straight sides, apex subtriangular with indistinctly concave sides and shortly obtuse tip; laterally almost straight, tip slender, elongate.

Spermatheca with ramus only indicated in corpus; nodulus in basal half parallel-sided, straight, in apical half curved backwards, regularly tapered apicad.

Etymology. The two subhumeral spots created by densely placed scales suggested the Latin name of this new species, the adjective *bimaculatus* (-a, -um).

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