

| | | |
|-------|---------------------|----------------------|
| Genus | Vol. 20(2): 263-275 | Wrocław, 15 VII 2009 |
|-------|---------------------|----------------------|

**The *Bruchidius subarmatus* species group, with synonymous notes on
South African species
(Coleoptera: Chrysomelidae: Bruchinae)**

ALEX DELOBEL

Muséum National d'Histoire Naturelle, 45 rue Buffon, 75005 Paris, France, e-mail: delobel.alex@aliceadsl.fr

ABSTRACT. A small group of species with a particular type of rod- or gutter-shaped sclerite in male saccus is reviewed, and male genitalia of most species are represented for the first time. The group presently comprises five members: four South African species originally described in *Bruchus* (*B. borboniae* BOH., *B. incanus* BOH., *B. inconditus* FAHR., and *B. subarmatus* GYLL.) are transferred to or maintained in the genus *Bruchidius* for homogeneity reasons; the fifth species, *Bruchidius inexpectatus* DECELLE, is recorded from Ethiopia. *B. subsignatus* BOH. and *B. versicolor* BOH. are synonymized with *B. subarmatus* GYLL. The biology of the group is largely unknown; *B. borboniae* is probably a seed predator of *Aspalathus* sp., a leguminous plant belonging to tribe Crotalarieae.

Key words: entomology, taxonomy, Coleoptera, Bruchidae, *Bruchidius*, Afrotropical region, host plant, *Aspalathus*.

INTRODUCTION

When studying a small collection of seed beetles originating from Ethiopia, DECELLE (1971) noted the close relationship existing between a new species, *Bruchidius inexpectatus* DECELLE, and a series of South African species, namely *borboniae* BOH., *incanus* BOH., *inconditus* FAHR., *subarmatus* GYLL., *subsignatus* BOH., and *versicolor* BOH. Through the kindness of B. VIKLUND (Swedish Museum of Natural History, Stockholm), I had the opportunity to study several types in this group. Also, specimens of *B. incanus* and *B. versicolor* identified by M. PIC and J. DECELLE were kindly made available to me by H. PERRIN (Muséum national d'Histoire naturelle, Paris) and the

late N. BERTI; these specimens are in good agreement with original descriptions. All species are well characterized by the presence of a single rod- or gutter-like sclerite in the internal sac wall. Externally, they are quite similar with, and uneasily distinguished from bruchines commonly found predating seeds of *Acacia* trees all over Africa (DELOBEL, 2007). The boundaries of the group were delimited by DECCELLE (1971), but it was neither named, nor described. In this paper, a definition of the new species group is provided, together with synonymic notes, redescriptions of the South African species and drawings of male genitalia. As usual, we choose to assign these insects to *Bruchidius* for the sake of homogeneity, in spite of the strong paraphyly of the genus (DELOBEL, 2007; KERGOAT *et al.*, 2008). Abbreviations used: NRS, Swedish Museum of Natural History, Stockholm; MNHN, Muséum national d'Histoire naturelle, Paris.

***Bruchidius borboniae* (BOHEMAN)**

Bruchus borboniae BOHEMAN, 1839: 110.
Bruchidius borboniae: DECCELLE, 1971: 256.

TYPE MATERIAL

Holotype: Male, SOUTH AFRICA, “in Borbonia / Terra Caffrorum / Ecklon & Zeyher [hdw.] – 190/64 – Naturhistoriske / Riksmuseet / Stockholm”, specimen on pin, NRS.

ADDITIONAL MATERIAL

SOUTH AFRICA, 1 male, “Willowmore / Dr. Brauns”, MNHN.

REDESCRIPTION

Length (pronotum-pygidium): 2.6 mm; width: circa 2.0 mm. Body short ovate, rather thick, pygidium slanted about 45° from vertical. Integument mostly black, anterior legs dark orange, with femora brownish, median legs brownish red with femora dark brown, posterior legs black or dark brown, with metafemoral apex lighter; antennae orange, becoming darker from segment 5. Vestiture of two types: white scales and thin, olive or brown, setae. Antennae with short and dense white setation, head and thorax with short, appressed white setae, not hiding cuticle; setae more dense and scaly on sides and base of pronotum; on elytra, white scales form four more or less distinct areas: basal fourth densely scattered with white scales, specially on interval 3, a white spot on intervals 7 to 9, at basal third, a little beyond middle, and a preapical transversal area; elytral apex brown; pygidium with white setae, denser in anterior third. On ventral side, white scales are denser on upper part of abdominal sternites.

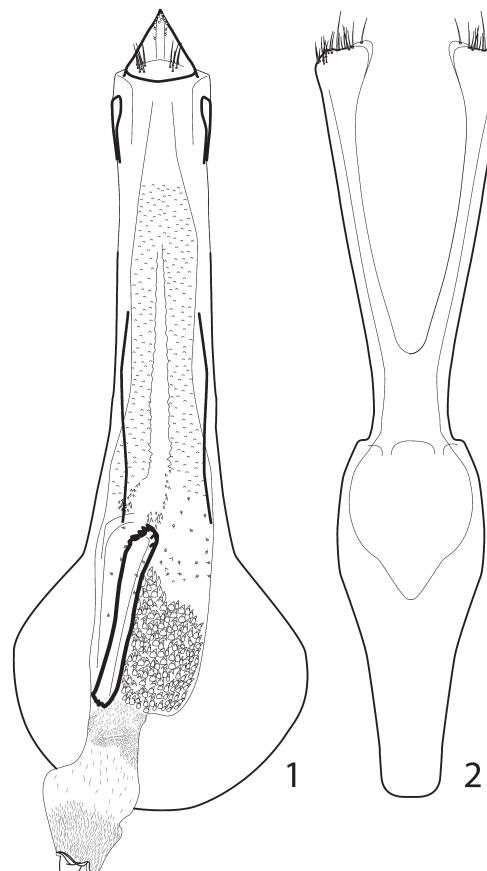
Male. Head short; eyes moderately bulging, maximum head width 1.4 times width behind eyes; eyes separated by 0.34 times head width including eyes; distance between posterior rim of eyes and apex of clypeus / distance between eyes = 1.9; eye cleft to 0.5 its length, width at bottom of sinus composed of 6 ommatidia; maximum width of postocular lobes equal to 1/2 eye width at sinus, with granular sculpture; carina on frons

quite distinct, though not shining. Punctuation strong and dense, vanishing on clypeus. Antenna short, hardly reaching to pronotal base; antennal segments 1-4 subcylindrical, with 2-4 almost equal in length, segments 5-9 widened at apex, segments 6-10 cup-shaped, asymmetrical, wider than long, 11 oval ($L/W = 1.44$). Length of antennomeres: 1.3 : 1 : 1 : 0.9 : 1.1 : 1.2 : 1.2 : 1.3 : 1.3 : 1.3 : 1.9.

Pronotum slightly transverse, with greatest width at base ($W/L = 1.44$), its sides basally slightly convergent, straight, then markedly rounded, not expanded behind eyes; without any oblique impression on sides of basal lobe. The entire pronotum with punctures strong, irregular, coalescent, not clearly ocellate.

Elytra 1.05 times longer than combined width, their sides convex, maximum width before middle; disc flattened; no distinct teeth at base of interstriae 3 and 4. Striae on disc thin but well defined; interstriae flat, with micropunctuation, without large punctures.

Hind femora moderately incrassate; mesoventral margin with minute preapical denticle; hind tibiae apically strongly widened, with dorsomesal and ventral carinae



1-2. male genitalia of *Bruchidius borboniae*, ventral view: 1 – median lobe; 2 – lateral lobe and tegminal strut

complete, lateral reaching base; apex of tibia with mucro about as long as width of tarsomere 1 at base; lateral denticle about 0.5 mucro length, and dorsal denticles long and acute, 2/3 of lateral denticle. First tarsomere ventrally with a very short blunt denticle.

Abdomen with ventrite 5 emarginate, its length medially about 2/3 of sternite 4; ventrite 1 basally without patch of short setae. Pygidium shield-shaped, as long as wide (W/L = 1.02), with apical 1/5 convex but not really turned under.

Genitalia of type not examined. The male from Willowmore (in the Eastern Cape province of South Africa) is identical with the type, except for its lighter colour (posterior femora are partly orange); its genitalia are as follows: median lobe (Fig. 1) elongated (maximum width excluding basal hood / total length = 0.12), parallel-sided; basal hood small, not apically notched; ventral valve well sclerotized, equilaterally subtriangular, with numerous sensilla, and two lateral groups of 7-8 setae of equal length; no hinge sclerite; proximal two-thirds of internal sac with strands of soft, hyaline tubercles, saccus bearing a large cluster of lightly sclerotized denticles and an elongated rod-like sclerite, with a dozen small teeth at proximal end; distal bulb with various types of minute setae and scales; about 7 rows of broad based needles oriented towards gonopore; gonopore sclerite complex, with an elliptical projection. Basal strut slender (Fig. 2), without keel; lateral lobes cleft to 0.78 their length, pubescent on inner side; apex of parameres with 4 longer setae and about 20 shorter ones; dorsal side of paramere apex with pubescent expansion.

Female. Unknown to me.

AFFINITIES

B. inexpectatus and *B. borboniae* are closely related; they differ in size, *borboniae* being notably smaller, in dorsal vestiture and in male genital morphology, particularly in shape of rod-like sclerite (compare figures 1 and 5).

BIOLOGY

No geographical item bearing the name “Borbonia” existed in South Africa during the first half of the XIXth century. *Borbonia* seems to refer to a genus of South African Leguminosae (Crotalarieae) which was synonymized with *Aspalathus* (ILDIS).

DISTRIBUTION

South Africa.

Bruchidius incanus (BOHEMAN), comb. nov.

Bruchus incanus BOHEMAN, 1839: 107.

Mimosestes incanus: JOHNSON & KINGSOLVER, 1977: 154.

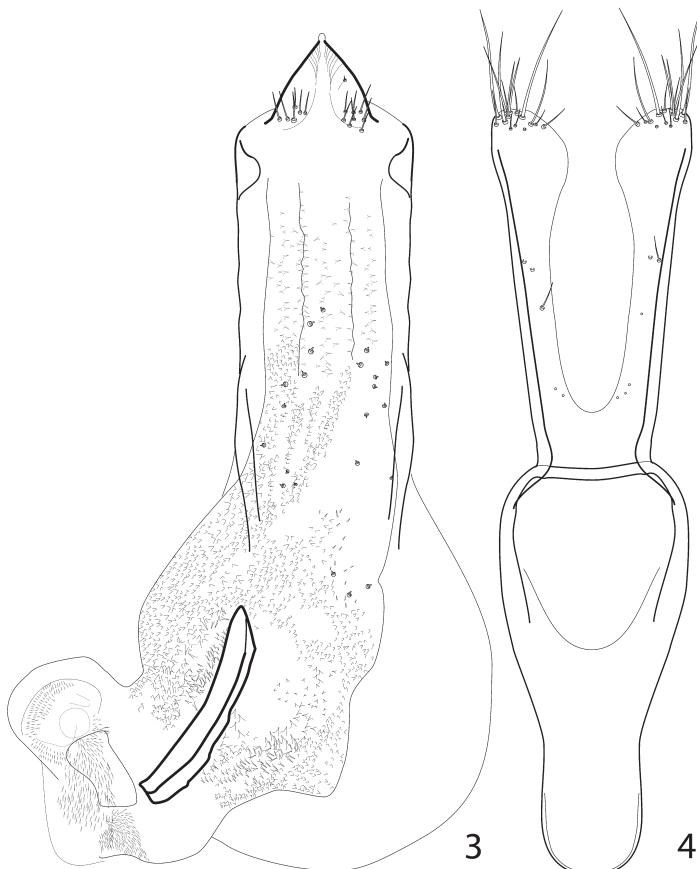
MATERIAL EXAMINED

Male, SOUTH AFRICA, “Le Cap (ex M. Hamburg) – 100 – Br. incanus Boh. (verus) [Pic’s hdw.]”, genitalia dissected (Delobel 14908); 1 male, “South Africa / Cape Province / Nieuwoudtville / 18-22.11.1931”, genitalia dissected (Delobel 14808), MNHN.

REDESCRIPTION

Length: 3.3 - 3.6 mm, width: 1.8 - 2.0 mm. Body black, except antennae entirely and legs largely, reddish (four anterior legs entirely, posterior legs with basal third of femora black); elytra covered with dense grayish pubescence and a faint pattern showing indistinct areas of whitish and yellowish setae.

Male genitalia: median lobe (Fig. 3) stout (maximum width excluding basal hood / total length = 0.21), parallel-sided; basal hood small, narrow, not apically notched; ventral valve well sclerotized, equilaterally subtriangular, with numerous apical sensilla, and two lateral groups of 6-10 setae; no hinge sclerite; proximal third of internal sac with strands of ctenoid tubercles, then sclerotized denticles mixed with round tubercles, more numerous in saccus, particularly on ventral side; an elongated, well sclerotized, gutter-shaped sclerite in dorsal wall of saccus (in a deep longitudinal trough); narrowed immediately beyond sclerite, with slightly sclerotized wall; distal bulb with minute setae; apically, broad based needles oriented towards gonopore; gonopore sclerite complex,



3-4. male genitalia of *Bruchidius incanus*, ventral view: 3 – median lobe; 4 – lateral lobe and tegminal strut

with a circular projection. Basal strut slender (Fig. 4), without keel; lateral lobes cleft to 0.86 their length, pubescent on inner side; apex of parameres with 20 setae.

Female. Unknown to me.

AFFINITIES

Very similar with *B. subarmatus*, from which it differs mainly in saccus ornamentation; externally, *icanus* may be distinguished through its dorsal setation, almost uniformly dense and grayish, whereas the elytra of *subarmatus* show distinct grayish, yellowish and brownish elongated spots (see *subarmatus*).

BIOLOGY

Larval host plant unknown.

DISTRIBUTION

South Africa.

Bruchidius inconditus (FAHRAEUS), comb. nov.

Bruchus inconditus FAHRAEUS, 1839: 51-52.

TYPE MATERIAL

Holotype: Male, SOUTH AFRICA, “Typus – Caffraria / Eckl: & Zeyh: [hdw.] – an spadicei var? / test Dej. (on underside: cinerosus Schh.) [hdw.] – 460 / 64”; ♂ paratype, “Paratypus – Caffraria / Eckl: & Zeyh: [hdw.] – 461 / 64 – Riksmuseum Stockholm – Genit Br. St.29 m – B. inconditus [hdw.] – R.M. Prep. 4240” (dissected by Decelle in 1965), NRS.

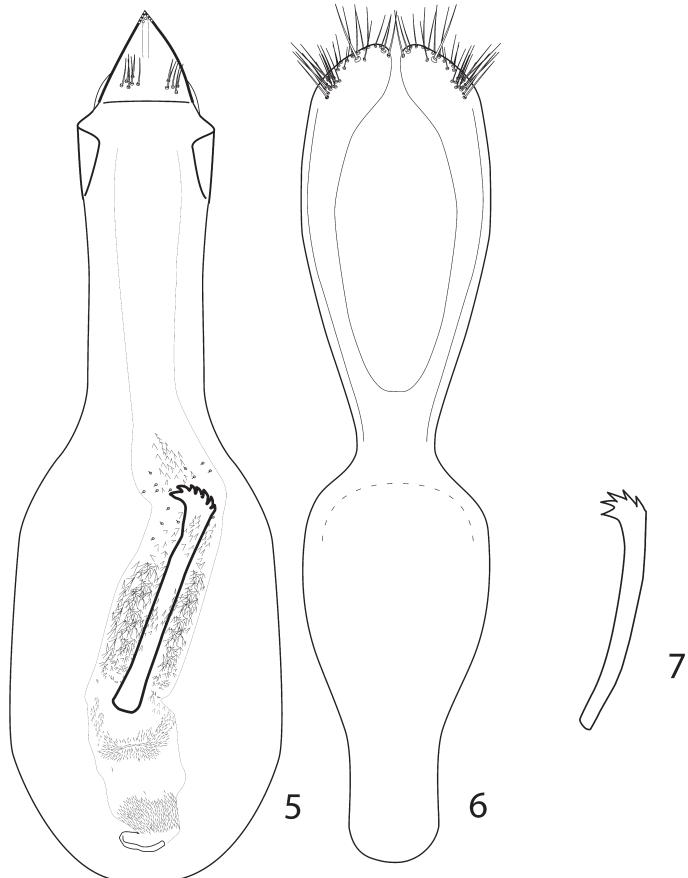
REDESCRIPTION

Length (pronotum-pygidium): 3.1 mm; width: 1.9 mm. Body short ovate, rather thick, base of pygidium slanted about 45° from vertical. Integument reddish-brown on dorsal side, with black spots on pronotal disc, on sides and apex of elytra, two square spots in interstria 3, pygidium entirely, ventrite 5 almost entirely, reddish; ventral side black, except upper part of ventrites, head black except behind eyes; anterior legs including coxae, median legs excluding coxae, testaceous, posterior legs slightly darker, specially femora; antennae entirely testaceous. Vestiture made of white silky setae, dark on black parts of integument, denser on pronotal sides, at base of pronotum and elytra, on upper parts of thoracic sternites and ventrites 2-5.

Male. Head slightly elongated; eyes moderately bulging, maximum head width 1.37 times width behind eyes; eyes separated by 0.35 times head width including eyes; distance between posterior rim of eyes and apex of clypeus / distance between eyes = 1.94; eye cleft to about half its length, width at bottom of sinus composed of 9 ommatidia; maximum width of postocular lobes equal to 1/3 eye width at sinus; carina on frons alutaceous, not shining, interocular tubercle distinct. Punctuation of face small and dense. Antenna short, hardly reaching to pronotal base; antennal segments 2-4

subcylindrical, with 2 and 3 almost equal in length, 4 shorter, segments 5-10 widened at apex, segments 6-10 cup-shaped, asymmetrical, wider than long, 11 oval ($L/W = 1.19$). Length of antennomeres: 1.2 ; 1 ; 1 ; 0.9 ; 1 ; 1 ; 1 ; 1.2 ; 1.2 ; 1.2 ; 1.7.

Pronotum sub trapezoidal, with greatest width at base ($W/L = 1.55$), its sides strongly convergent, straight, not expanded behind eyes; with very shallow oblique impression on sides of basal lobe. Pronotum disc with small, dense punctures, separated by less than their own diameter. Elytra only 1.1 times longer than combined width, their sides convex, maximum width beyond middle; disc very convex; no teeth at base of interstriae 3 and 4. Striae on disc thin and shallow; interstriae slightly convex, with dense micropunctuation, without larger punctures. Hind femora strongly incrassate before apex; mesoventral margin with minute preapical denticle; hind tibiae apically strongly widened, with dorsomesal and ventral carinae complete, lateral reaching base; apex of tibia with mucro longer than width of tarsomere 1 at base; lateral denticle about 2/3



5-6. male genitalia of *Bruchidius inconditus*, ventral view: 5 – median lobe; 6 – lateral lobe and tegminal strut; 7 – *Bruchidius inexpectatus*, sclerite of internal sac (after DECCELLE, 1971)

mucro length, and dorsal denticles half lateral denticle or less. First tarsomere ventrally with small obtuse denticle.

Abdomen with ventrite 5 emarginate, its length medially about 2/3 sternite 4; ventrite 1 basally without patch of short or brush of long setae. Pygidium shield-shaped ($W/L = 1.0$), with apical 1/4 strongly convex and apex turned under.

Genitalia: median lobe (Fig. 5) moderately elongated (maximum width excluding basal hood / total length = 0.16), parallel-sided; basal hood small, not apically notched; ventral valve well sclerotized, equilaterally subtriangular, with numerous sensilla, and two lateral groups of 5-6 setae of equal length; no hinge sclerite; proximal two-thirds of internal sac with strands of soft, hyaline tubercles, saccus bearing a large cluster of lightly sclerotized denticles and an elongated rod-like sclerite, with 7 small teeth at proximal end; distal bulb with various types of minute setae and scales; broad based needles oriented towards gonopore; gonopore sclerite complex, with an elliptical projection. Basal strut (Fig. 6) slender, without keel; lateral lobes cleft to 0.8 their length, pubescent on inner side; apex of parameres with more than 20 shorter and longer setae.

Female. Unknown to me.

BIOLOGY

Larval host plant unknown.

AFFINITIES

No important difference in genital morphology with *B. borboniae* (except shape of rod-like sclerite in saccus, more straight in *inconditus*, tip slightly curved in *borboniae*). External morphology of the two species is quite similar, a major difference being in integument color: *B. borboniae* is completely black dorsally, which is not the case of *inconditus*. Antennae and legs are of a much similar color, pronotum is of a different shape, more transverse in *borboniae*. A study of male genitalia shows that the species is unrelated to *B. spadiceus* Fähr. (= *B. albosparsus* Fähr.), contrary to the indication on one of the type's labels.

DISTRIBUTION

South Africa.

Bruchidius inexpectatus DECCELLE

Bruchidius inexpectatus, DECCELLE 1971: 245.

The following is based on DECCELLE's excellent description.

Length: 1.9 to 2.0 mm. Body black, except antennae entirely and legs partly, reddish: four anterior legs entirely red, posterior legs black except apical third of femora and apical half of tibiae, red; female darker, with posterior legs almost entirely black.

Male genitalia: median lobe rather short, parallel-sided; basal hood small, not apically notched; ventral valve well sclerotized, equilaterally subtriangular, with numerous apical sensilla, and two lateral groups of 3-4 setae; no hinge sclerite; sclerotized

denticles numerous in saccus; an elongated, curved, rod-shaped sclerite, with widened head bearing 6-7 denticles (Fig. 7); distal bulb with minute setae; apically, transparent needles around gonopore. Basal strut flat, without keel; lateral lobes cleft to their base; apex of parameres with 18 setae.

BIOLOGY

Larval host plant unknown.

AFFINITIES

Externally similar to *borboniae*, but smaller and without the white and brownish pattern on elytra; saccus sclerite much similar with that found in *inconditus*.

DISTRIBUTION

Ethiopia.

Bruchidius subarmatus (GYLLENHAL), comb. nov.

Bruchus subarmatus GYLLENHAL, 1833: 75 – FÄHRAEUS, 1839: 102.

Bruchus versicolor BOHEMAN, 1833: 75-76, **syn. nov.**

Bruchus subsignatus BOHEMAN, 1833: 76, **syn. nov.**

TYPE MATERIAL

Holotype: Male, SOUTH AFRICA, “Typus – Cap b. Sp. / v. Winth. [hdw.] – 202 / 64”; pinned through right elytron and posterior leg, right median and posterior (including coxa) legs missing, genitalia dissected (Delobel 15108), NRS.

B. subsignatus, female holotype, “Typus – Cap. b. Sp. / v. Winth. [hdw.] – 104 / 72 – 197 / 64” (antennae missing); female paratype, “Paratypus – Cap. b. Sp. / v. Winth – 105 / 72 – 198 / 64” (left elytron missing), NRS.

ADDITIONAL MATERIAL

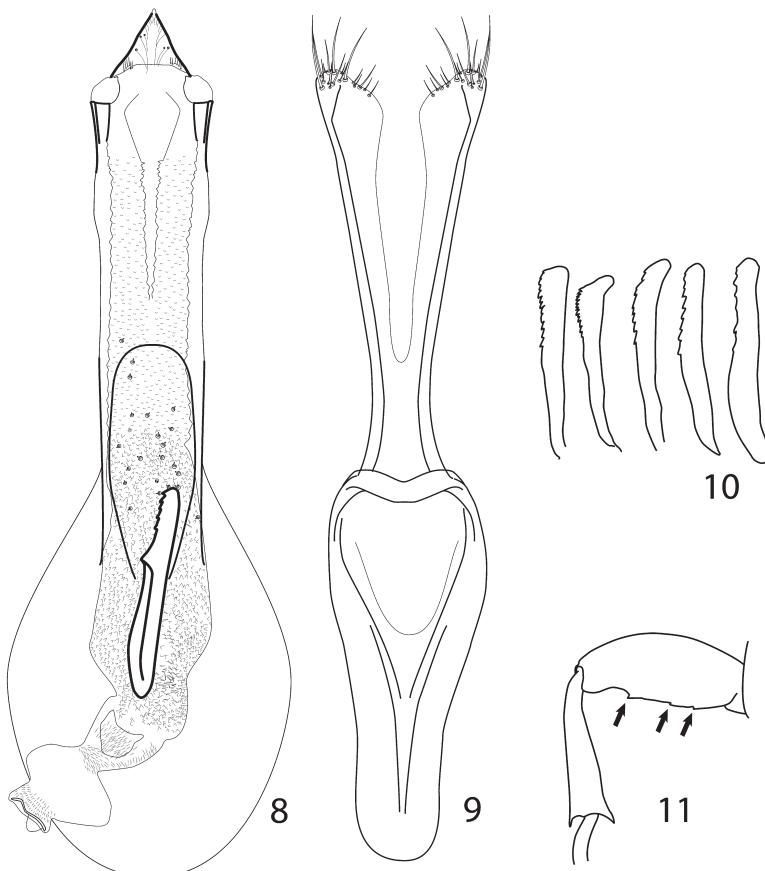
1 male, “Le Cap – versicolor Boh [Pic’s hdw.] – Bruchus versicolor Boh. / J. Decelle det. 1961”; 1 male, “Le Cap – ex M. Hamburg – Bruchus versicolor Boh.? [Pic’s hdw.]”, genitalia dissected (Delobel 14708); 1 female, “Le Cap [Pic’s hdw.] – incanus [Pic’s hdw.]”; 1 female, “voir subsignatus Boh [Pic’s hdw] – incanus probl. [Pic’s hdw.]”; 1 male, “Cap – Bruchus [Pic’s hdw.]”, genitalia dissected (Delobel 6103); 2 males, 1 female “Bruchus versicolor [Pic’s hdw.]”, 2 males with genitalia dissected (Delobel 14608 & 15008), MNHN. All specimens (except that with *B. versicolor* identification label) with pinhole through right elytron.

REDESCRIPTION

Length (pronotum-pygidium): 3.2 mm; width: 1.9 mm. Body rather short, pygidium slanted about 45° from vertical. Integument of head and thorax black; antennae, elytra, legs (except base of posterior femora, black), abdomen (except central part of ventrites 1-4, black), testaceous. Vestiture of head whitish, not very dense; pronotum dark yel-

low, with two spots of white setae on disc, dense but not hiding black integument; vestiture of basal lobes not denser than rest of pronotum, with a short bare fovea; on elytra, vestiture yellowish, with spots of denser setation, particularly at base and before middle of 3rd interval; setation uniform on pygidium; on ventral side, setation whitish, denser on upper part of sternites.

Male. Head wide, eyes bulging, maximum head width 1.4 times width behind eyes; eyes separated by 0.37 times head width including eyes; distance between posterior rim of eyes and apex of clypeus / distance between eyes = 2.2; eye cleft to less than half its length, width at bottom of sinus composed of 7-8 ommatidia; maximum width of postocular lobes equal to less than 1/4 eye width at sinus; carina on frons absent or very shallow, interocular tubercle indistinct; apex of clypeus slightly concave in front view. Punctuation of face dense but shallow. Antenna short, hardly reaching to pronotal base; antennal segments 1-3 subcylindrical, segment 4 slightly enlarged apically, but



8-11. *Bruchidius subarmatus*: 8 – median lobe; 9 – lateral lobe and tegminal strut; 10 – various shapes of saccus sclerites; 11 – left posterior leg, rear view, showing additional notches

still longer than wide, 5-10 cup-shaped, wider than long, 11 oval ($L/W = 1.18$). Length of antennomeres: 1.3 ; 1 ; 1.1 ; 0.9 ; 0.9 ; 0.8 ; 0.9 ; 1 ; 1.1 ; 1 ; 1.5.

Pronotum slightly campaniform, strongly transverse, with greatest width at base ($W/L = 1.7$), its sides basally slightly concave, hardly convergent in basal 2/3, then rounded, slightly expanded behind eyes; without oblique impression on sides of basal lobe. In side view, pronotum convex in posterior 1/4, almost flat in front. Disc with large, ocellate punctures, with smaller punctures between them, integument shining.

Elytra 1.08 times longer than combined width (elytra slightly separated), their sides convex, maximum width at middle; striae 1-5 wide and deep just behind base, with coarse punctuation, but without denticles. Interstriae flat on disc, with strong microsculpture and a few large punctures.

Hind femora moderately incrassate; mesoventral margin with small preapical denticle, and one or two inconspicuous notches in basal half (Fig. 11); hind tibia apically strongly widened, with dorsomesal and ventral carinae complete, lateral reaching base; apex of tibia with mucro about 1.5 times longer than width of tarsomere 1 at base; lateral denticle about 1/3 mucro length, and longest dorsal denticle as long as lateral denticle. First tarsomere ventrally with short blunt denticle.

Abdomen with ventrite 5 emarginate, its length medially about 2/3 sternite 4; ventrite 1 without any patch of short setae or brush of erect setae. Pygidium subcircular ($W/L = 1.05$), regularly convex, with apical 1/4 turned under.

Genitalia. Median lobe (Fig. 8) elongated (maximum width excluding basal hood / total length = 0.14), parallel-sided; basal hood narrow, not apically notched; ventral valve well sclerotized, subtriangular, with numerous apical sensilla, and two lateral groups of 6 very short setae; no hinge sclerite; proximal half of internal sac with strands of hyaline tubercles, saccus bearing strands of lightly sclerotized denticles and round tubercles; an elongated, well sclerotized, distally gutter-shaped sclerite included in dorsal wall of saccus, protruding proximally in saccus lumen, with about 10 teeth on convex side of sclerite; free part of sclerite blade-like, about 2/5 total sclerite length; median lobe slightly sclerotized beyond sclerite; proximal part of distal bulb with minute setae; broad based needles oriented towards gonopore; gonopore sclerite complex, with an elliptical projection. Basal strut (Fig. 9) slender, with ill-defined longitudinal carina; lateral lobes long, cleft to 0.7 their length, pubescent on inner side; apex of parameres with 17-18 setae.

Female (types of *B. subsignatus*). Length: 2.8 mm; width: 1.5 mm. Antenna short, hardly reaching to pronotal base; antennal segments 1-4 subcylindrical, segments 4 and 5 slightly wider apically than long, segments 6-8 transverse, cup-shaped, 9-11 subrectangular. Length of antennomeres: 1.4 ; 1 ; 1.2 ; 0.8 ; 1.1 ; 1.1 ; 1 ; 0.9 ; 1 ; 1.3 ; 1.7. Abdomen with ventrite 5 not emarginate; ventrite 1 without any particular arrangement of setae. Pygidium elongate, subtriangular, ($W/L = 0.8$), slightly furrowed laterally, regularly but slightly convex, not turned under, slanted about 70° from vertical.

AFFINITIES

The free part of the rod-like sclerite varies in length and number of teeth among the different specimens examined (Fig. 10); differences in male genital morphology do

not clearly correlate with other morphological traits. We must therefore consider that observed differences are nothing more than individual variations. On the other hand, the distinction between *subarmatus* and *icanus* is mainly based on genital sclerite shape: in *icanus*, it is more deeply curved, the apex is pointed, and its edge does not bear any tooth; differences in external morphology alone (particularly setation color or pronotum shape) would probably not justify maintaining *icanus* as a valid species.

BIOLOGY

Larval host plant unknown.

DISTRIBUTION

South Africa.

REMARK

There are several discrepancies between GYLLENHAL's description of *subarmatus* and the actual morphology of the type: 1. Antennae are described as slim basally, of a light testaceous color, much thicker towards apex, of a dark brownish black ("*obscarius fuscopiceae*"); antennae are in fact entirely testaceous. 2. The underside is described as of a very dark brown ("*obscarius piceum*"), when in fact most of the abdomen is reddish. A more convincing description of body color was later given by FAHRAEUS (1839).

CONCLUSION

The *Bruchidius subarmatus* species-group is made up of medium sized insects, bearing some similarity with members of the *Bruchidius rubicundus* group of species feeding mainly in seeds of *Acacia* trees (KERGOAT *et al.* 2008). It is a small group of species, with very close affinities. To date, described members of the group are only five, namely *B. subarmatus* GYL., *B. inconditus* FÄHR., *B. incanus* BOH., *B. borboniae* BOH., *B. inexpectatus* DECCELLE. According to DECCELLE (1971), an additional member of the group is to be found in Rwanda. These species share the following characters: body moderately flattened, with integument largely black, and setation grayish or yellowish, uniform or variegated; antennae short, similar in male and female, abdominal ventrites without particular arrangement of setae, last abdominal tergite (pygidium) turned under in males, without speculum in females; base of elytra devoid of teeth or crenulated carina; elytral and pronotal outlines in a line; posterior femora with small denticle on ventral edge, apical corona of posterior tibiae with large ventral mucro, a variable number of smaller lateral denticles, and often a supernumerary dorsal denticle; male aedeagus without hinge sclerites, ventral valve triangular, saccus with a single, large, rod-like sclerite (often partly serrate), gonopore sclerite complex, with an elliptical projection, basal strut slender, without carina. These species are very closely related, difficult to separate, and further data are needed to fully assess the diversity of the group.

Very little is known of their biology. Intensive sampling of seeds of Convolvulaceae and Leguminosae recently carried out in Eastern Africa by LERÜ (KERGOAT *et al.* 2005,

2008; DELOBEL & LERÜ 2008) failed to yield any member of the present group. Larval host plants of several members of the group may be endemic to South Africa, as in the case of the only biological mention currently available, i.e. an unidentified species of *Aspalathus* from which *B. borboniae* was apparently obtained. Obviously, this does not hold for *B. inexpectatus*, or for the additional species from Rwanda; alternatively, hosts might actually be non-Leguminous plants.

REFERENCES

- BOHEMAN, C.H., 1833. *In SCHOENHERR*
—, 1839. *In SCHOENHERR*
DECCELLE, J., 1971. Bruchides (Col.) récoltés en Abyssinie Centrale par l'expédition H. SCOTT et J. OMER COOPER (IX.1926 – I.1927). Bull. Ann. Soc. R. entomol. Belg., **107**: 243-259.
DELOBEL, A., 2007. Description of previously reported but hitherto undescribed African *Bruchidius* (Coleoptera: Bruchidae). Genus, Wroclaw, **18**: 687-720.
DELOBEL, A. & LERÜ, B., 2008. Les *Bruchidius* consommateurs de graines d'*Aeschynomene* ; définition du groupe d'espèces *Bruchidius kiliwaensis* (DECCELLE) (Coleoptera, Bruchidae). Bull. Soc. entomol. Fr., **113**: 5-14.
FAHRAEUS, O.J., 1839. *In SCHOENHERR*
GYLENHAL, L., 1833. *In SCHOENHERR*
ILDIS, 2008. International legume database and information service. Legume Web. <http://www.ildis.org>.
JOHNSON, C.D., KINGSOLVER, J.M., 1977. New taxonomic combinations in Bruchidae. Col. Bull., **31**: 154.
KERGOAT, G.-J., DELOBEL, A., FÉDIÈRE, G., LERÜ, B., SILVAIN, J.F., 2005. Both host-plant phylogeny and chemistry have shaped the African seed-beetle radiation. Mol. Phyl. Evol., **35**: 602-611.
KERGOAT, G.-J., DELOBEL, A., LERÜ, B., SILVAIN, J.F., 2008. Seed-beetles in the age of the molecule: recent advances on systematics and host-plant association patterns. Research on Chrysomelidae, **1**: 59-86.
SCHOENHERR, C.J., 1833. Genera et species Curculonidum, cum synonymia hujus familiae. Roret, Paris, 1: 31-118.
—, 1839. Genera et species Curculonidum, cum synonymia hujus familiae. Roret, Paris; Fleischer, Lipsia. 5 (1, suppl.): 456 pp.