

A revision of the genus *Aborolabis* Srivastava, 1969

(Dermaptera, Carcinophoridae)

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Srivastava separated all those *Anisolabis* species in which the ♂♂ have a triangular process on the inner margin of the external parameres and grouped them under *Aborolabis* with *Anisolabis pervicina* Burr, 1913 —India, Bhutan— as type - species. Some years later on the basis of the described feature a further species was found in India and another one in Nepal.

During the revision of the genus *Anisolabis*, I made genital preparation of all species. While comparing the material it was found that this triangular process regarded to be of generic importance by Srivastava is present in a few South European and in North African *Anisolabis* species, too. These species were placed in a separate paper into *Aborolabis*.

With this information thus we have two epicentres of the genus *Aborolabis*: one in the Himalayas, the other one in the Iberian peninsula and the Palaeartic North Africa. This double - poled distribution is not a unique phenomenon in *Dermaptera* since as we known, e. g. the species - groups of the related genera *Eulithinus* Hincks, 1935 and *Allodahlia* Verhoeff, 1902 belonging into Family *Forficulidae* similarly occur in these two zoogeographical districts.

A b o r o l a b i s Srivastava, 1969.

Aborolabis Srivastava, 1969. *Ent. Rec.*, t. LXXXI, pág. 246.

Paralabis Burr, 1915 (*partim*). *Journ. R. micr. Soc.* (1915), pág. 540.

Type - species: *Anisolabis pervicina* Burr, 1913.

General colour reddish - brown or brownish - black. Size medium, surface pilose. Head triangular, postfrontal sutures and coronal suture distinct; caudal margin sinuate mesad. Eyes small, shorter than

genae. Pronotum quadrate or transverse: lateral margins and sides straight, gently widened posteriorly; all angles rounded. Tegmina absent or present as narrow lateral flaps on mesonotum. Wings entirely absent. Abdomen gradually dilated from base to 7th abdominal tergite. Ultimate tergite broad, strongly transverse, sparsely punctate with median longitudinal furrow. Forceps trigonal basally, curved apically. ♂ genitalia with external parameres three times longer than broad, tip rounded; inner margin with characteristic triangular process; genital lobes without virgae.

Distribution: Oriental and Palaearctical regions.

IDENTIFICATION KEY TO THE SPECIES.

- 1 (6) Oriental species.
- 2 (3) Triangular process of the inner margin of ♂ external parameres relatively short, about half as long as length of external paramere (fig. 1)
... .. **nepalensis** (Brindle, 1974).
- 3 (2) Triangular process of the inner margin of external parameres large, about as long as length of external paramere.
- 4 (5) Legs brownish, femora and tibiae slender, banded with black; median incision of anterior margin of ♂ genitalia broad, as in fig. 2 **pervicina** (Burr, 1913).
- 5 (4) Legs brownish - yellow; femora without black banded; median incision of anterior margin of ♂ genitalia narrow, as in fig. 3 **kalaktangensis** Srivastava, 1972.
- 6 (1) Palaearctic species.
- 7 (10) Tibiae and femora yellow. Triangular process of the inner margin of ♂ genitalia broad and large at basal section (figs. 4 - 5).
- 8 (9) Head and pronotum black. Posterior margin of penultimate sternite of ♂ rounded. Paramere of ♂ genitalia (fig. 4) narrow; anterior margin of triangular process and inner margin of external paramere rectangular
... .. **angulifera** (Dohrn, 1864).
- 9 (8) Head and pronotum reddish - brown, not black. Posterior margin of penultimate sternite of ♂ excised transversely. Paramere of ♂ genitalia (fig. 5) broad; anterior margin of

- triangular process and inner margin of external paramere obtuse - angled **cerrobarjai** nov. sp.
- 10 (7) Tibiae black, femora uni- or bicolour. Inner process of external paramere there is at middle section (figs. 6 - 7).
- 11 (12) Femora unicolour, orange or yellowish - orange. Genital lobe relatively long and narrow; inner process of external paramere obtuse, as in fig. 6 ... **mordax** Steinmann, 1978.
- 12 (11) Femora bicolour, yellow basally, and black apically. Genital lobe relatively short and broad; inner process of external paramere extended, as in fig. 7 **mauritanica** (Lucas, 1846).

1. **Aborolabis nepalensis** (Brindle, 1974), *comb. nov.*

Anisolabis nepalensis Brindle, 1974. *Senckenbergiana biol.*, t. LV, pág. 148, figs. 4 (♂ genitalia), 5 (♂).

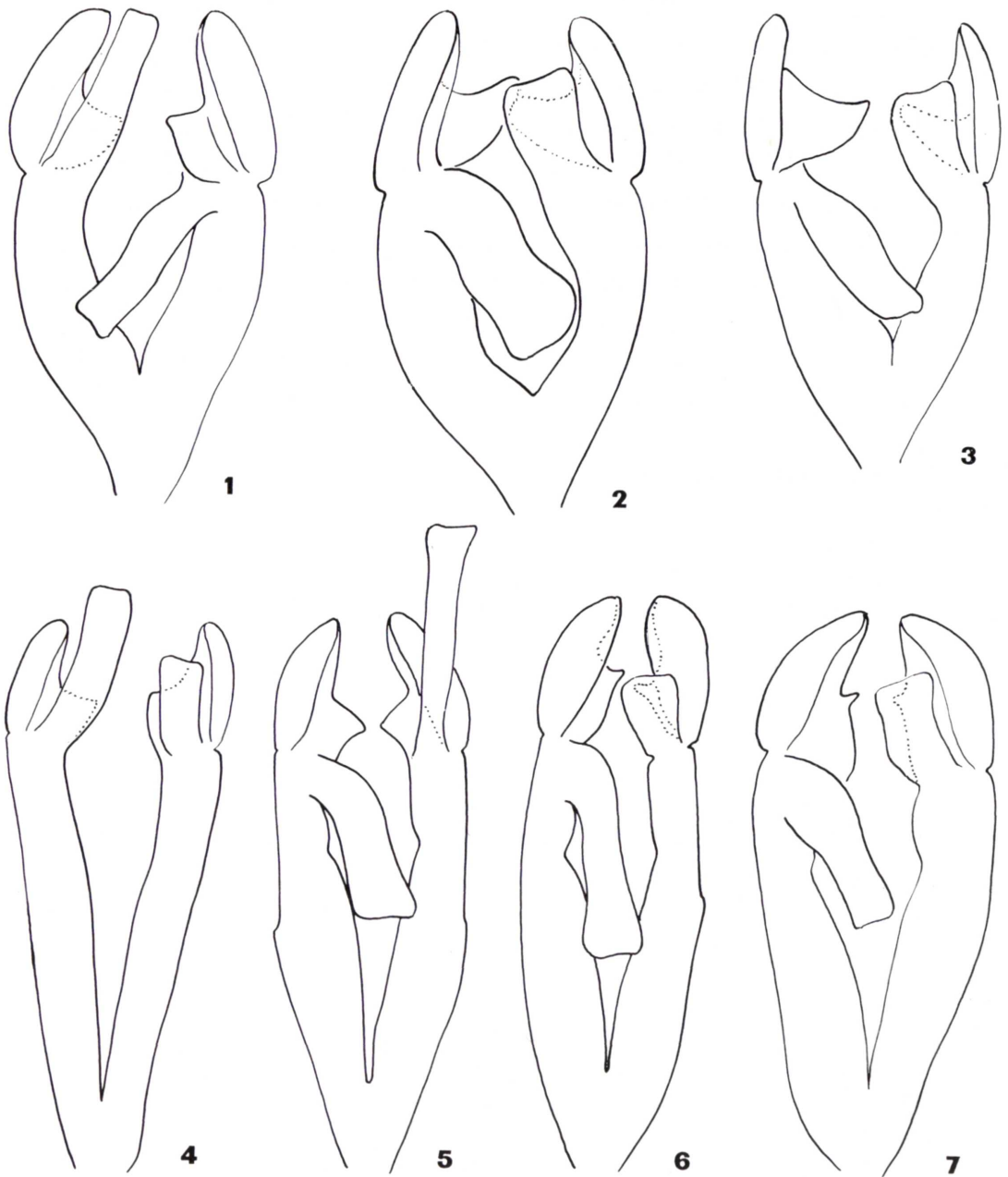
Type ♂: Natur - Museum Sackenberg, Frankfurt am Main (DBR).

♂ blackish, legs yellowish - brown; femora blackish except at bases and apices. Head transverse, postfrontal sutures and coronal suture fine but visible; eyes small, shorter than first antennal joint, its relatively short, second segment transverse, third joint twice as broad as long. Pronotum transverse, widened posteriorly; all margins more or less straight. Legs relatively short, femora glabrous but with sparse. Abdomen broad, visible broader to 6th and 7th tergites. Ultimate tergite wide, posterior margin produced above the base of each branch of the forceps. Forceps strongly trigonal basally, broad, cylindrical distally, branches asymmetrical. Penultimate sternite broadly triangular. Genitalia (fig. 1) with short external parameres; triangular inner process of external paramere relatively small; genital lobes well developed, without virgae.

♀ similar to ♂ but branches of forceps more or less straight and almost symmetrical.

Length of body with forceps: ♂ : 15 - 16mm; ♀ : 14 - 15,5 mm.

Distribution: Nepal, Himalayas.



Figs. 1-7.—♂ genital armature of: 1) *Aborolabis nepalensis* (Brindle, 1974); 2) *A. pervicina* (Burr, 1913); 3) *A. kalaktangensis* Srivastava, 1972; 4) *A. angulifera* (Dohrn, 1864); 5) *A. cerrobarjai* nov. sp.; 6) *A. mordax* Steinmann, 1978; 7) *A. mauritanica* (Lucas, 1846).

2. *Aborolabis pervicina* (Burr, 1913).

Anisolabis pervicina Burr, 1913. *Rec. Indian Mus.*, t. VIII (2), pág. 137.

Type ♂: British Museum (Nat. Hist.), London.

Paralabis pervicina (Burr): Burr, 1915. *Journ. R. micr. Soc.* (1915), pág. 540, pl. 12, fig. 3 (♂ genitalia).

Anisolabis pervicina Burr, Popham and Brindle, 1966. *Entomologist*, t. XCIX, pág. 274.

Aborolabis pervicina (Burr); Srivastava, 1969. *Ent. Rec.*, t. LXXXI, pág. 264, fig. 1 (♂ genitalia).

♂ shining black. Head triangular, postfrontal sutures and coronal suture faint. Antennae 19-segmented, black; 5th joint shorter than the third but longer than the 4th, with yellowish pubescence. Pronotum simple, median longitudinal suture not well marked, prozona slightly tumid and metazona flat; posterior angles rounded. Tegmina and wings absent. Legs brownish, femora and tibiae slender, banded with black. Abdomen shiny, punctulate, depressed in the middle, sides of segments 6-9 acute, rugulose and carinate. Ultimate tergite broad, transverse, less punctulate with a median longitudinal furrow. Forceps asymmetrical, widest and trigonal basally, strongly curved apically. Genitalia (fig. 2) characteristic; genital lobes large, without virgae; triangular process of external paramere very large.

♀ similar to ♂ but pronotum slightly broader posteriorly, punctulation of the body obscure; forceps simple, tapering, contiguous, symmetrical.

Length of body with forceps: ♂: 15-16,5 mm; ♀: 9-19 mm.

Distribution: India: Assam, Abor, and Bhutan.

3. *Aborolabis kalaktangensis* Srivastava, 1972.

Aborolabis kalaktangensis Srivastava, 1972. *Rec. Zool. Surv. India* (1-4), t. LXVI, pág. 134, figs. C (penultimate sternite of ♂), D (ultimate tergite with forceps of ♂), E (♂ genitalia).

Type ♂: Zoological Survey of India, Calcutta.

♂ general colour brownish, with traces of black on abdomen only. Head triangular, posterior margin gently sinuate; frons tumid, postfrontal sutures and coronal suture faint; eyes small and black.

Antennae 17 - segmented; second joint yellowish and the rest brownish - yellow. Pronotum almost quadrate, median longitudinal suture well marked, anterior and posterior margins truncate; all angles rounded. Tegmina and wings absent. Legs brownish - yellow; femora proximally dark brown, clad with yellowish hairs. Abdomen cylindrical, parallel - sided; lateral sides of abdominal tergites 6 to 9 acute, ecarinate and without striations. Ultimate tergite transverse, median longitudinal furrow not faint, oblique striate at the bases of forceps. Forceps trigonal at base, subcontiguous, tapering and curved, asymmetrical. Genitalia (fig. 3) specific; paramere V - shaped, genital lobes without virgae; inner process of external paramere very distinct, *Aborolabis* - type.

♀ similar to ♂, but forceps slender, simple, symmetrical.

Length of body with forceps: ♂ : 14,5 - 15 mm; ♀ : 13,5 - 14,5 mm.

Distribution: India.

4. *Aborolabis angulifera* (Dohrn, 1864).

Brachylabis angulifera Dohrn, 1864. *Stett. ent. Zeit.*, t. XXV, pág. 294.

Type ♂ : Instytut Zoologiczny, Warszawa, Poland.

Anisolabis angulifera (Dohrn); Bormans, 1900. *Das Tierreich*, t. XI, pág. 51.

Anisolabis pluto Rehn, 1905. *Proc. U. S. Nat. Hist. Mus.*, t. XXIX, pág. 506, fig. 4 (♂). Terra typica: Liberia (Type ♂ : Washington Museum).

Aborolabis angulifera (Dohrn); Steinmann, 1978. *Fol. Ent. Hung.*, t. XXXI, pág. 183.

♂ general colour reddish - brown; legs yellowish or light brown. Head a little longer than broad; eyes relatively small, shorter than first antennal segment. Antennae 15 - segmented. Pronotum transverse, black; lateral margins expanded to posterior margin; all angles rounded. Tegmina and wings absent. Mesonotum broad, metanotum very transverse. Abdomen cylindrical, widened to 5th abdominal tergite. Ultimate tergite short and wide, at least twice wider than long; posterior margin sharply truncate at lateral angles; median longitudinal furrow distinct. Forceps asymmetrical, trigonal basally, cylindrical and curved apically. Genitalia (fig. 4) well developed; paramere large, V - shaped, median incision of anterior margin very deep

and wide at apically; genital lobes without virgae; external parameres *Anisolabis*-type, but triangular process of inner margin large.

♀ similar to ♂ but forceps more or less symmetrical, broad and trigonal basally, tapering, contiguous.

Length of body with forceps: ♂ : 13 - 13,5 mm; ♀ : 13 - 15 mm.

Distribution: Sao Thomé Island, Morocco, Alger.

5. *Aborolabis cerrobarjai* nov. sp.

Holotype ♂, Spain, Sierra Nevada, altitude 2700 m, 18 - VI - 1976, gen. prep. No. 578, det. Dr. H. Steinmann, legit: Dr. H. Steinmann. Paratype ♀ (single exemplar), ditto.

♂ reddish-brown, antennae dark brown, legs yellow, unicolour. Head broad, a little broader than the width of pronotum; postfrontal sutures and coronal suture distinct; eyes small, shorter than first antennal joint. Antennae broken, first segment long but shorter than distance between antennal bases; third longer than fourth, later quadrate. Pronotum transverse, but more or less quadrate, all margins straight, and all angles rounded. Tegmina and wings entirely absent. Meso- and metanotum normal, simple. Abdomen cylindrical, widest at medially; abdominal tergites 5-9 with carinae laterally. Ultimate tergite broad, simple. Penultimate sternite broad, posterior margin excised transversely. Forceps well developed, large, trigonal basally, cylindrical, and curved apically, asymmetrical. Genitalia (fig. 5) large, medial incision of anterior margin of paramere deep; genital lobes fully developed, without virgae; anterior margin of triangular process and inner margin of external parameres obtuse-angled.

♀ similar to ♂ but forceps more or less symmetrical, broad and trigonal basally, tapering, contiguous; ultimate tergite and forceps red, legs reddish-yellow.

Length of body with forceps: ♂ : 23 mm; ♀ : 18 mm.

I dedicate it to Antonio del Cerro Barja, Madrid, foremost research worker on Entomology.

6. **Aborolabis mordax** Steinmann, 1978.

Aborolabis mordax Steinmann, 1978. *Fol. Ent. Hung.*, t. XXXI, pág. 183.
Type ♂ : Természettudományi Múzeum, Budapest.

♂ dark brown to black, except antennae, dark reddish-brown, femora orange or yellow, without dark brown or black bands, apically, and abdominal tergites of middle, reddish-black. Head tumid, postfrontal sutures and coronal suture visibly; posterior angles rounded. Eyes very small, shorter than first antennal joint. Antennae 22-segmented; first relatively short, shorter than distance between antennal bases. Pronotum pitchy, transverse, all margins straight, and all angles rounded; median longitudinal furrow distinct. Tegmina and wings absent. Meso- and metanotum broad. Femora unicolour, tibiae black. Abdomen cylindrical, expanded to middle; abdominal tergites 5-9 with carinae laterally. Ultimate tergite broad, posterior margin straight; median longitudinal furrow distinct. Forceps large, trigonal basally, cylindrical apically; apices of forceps curved; asymmetrical. Genitalia (fig. 6) specific; paramere broad, median incision of anterior margin very deep and wide; genital lobes without virgae, relatively long and narrow; external paramere broad, its triangular process large, obtuse.

♀ similar to ♂ but forceps symmetrical, contiguous, tapering.

Length of body with forceps: ♂ : 26-28 mm; ♀ : 25-29 mm.

Distribution: Tunisia and Spain (Andalusia).

7. **Aborolabis mauritanica** (Lucas, 1846).

Forficesila mauritanica Lucas, 1846. *Explor. Alger.*, t. III, pág. 4, pl. 1, fig. 1 (♂).

Type ♂ : unknown locality.

Brachylabis mauritanica (Lucas); Dohrn, 1864. *Stett. ent. Zeit.*, t. XXV, pág. 292.

Anisolabis mauritanica (Lucas); Bormans, 1900. *Das Tierreich*, t. XI, pág. 45 (Algeria, Tunisia).

Aborolabis mauritanica (Lucas); Steinmann, 1978. *Fol. Ent. Hung.*, t. XXXI, pág. 183.

♂ colour variable, very dark castaneous to blackish-brown, or reddish-brown. Head tumid, postfrontal sutures and coronal suture

very deep. Eyes small, rounded, shorter than first antennal joint. Antennae 23-segmented: first segment short, shorter than distance between antennal bases. Pronotum a little broader than long, parallel-sided, convex to posterior margin. Tegmina and wings entirely absent. Mesonotum transverse, posterior margin straight, metanotum cut out posteriorly. Femora bicolour, yellow basally and black apically. Tibiae black, shining. Abdomen widened to middle, abdominal tergites 5-9 with carinate at caudal sided. Ultimate tergite transverse, median longitudinal furrow distinct. Penultimate sternite rounded posteriorly. Forceps asymmetrical, trigonal basally, strongly curved apically. Genitalia (fig. 7) well developed, large, paramere broad, median incision of anterior margin very deep and wide; genital lobes without virgae; external paramere *Gonolabis*-type, a little curved apically; triangular process of inner margin extended at middle section.

♀ similar to ♂ but forceps simple, symmetrical, contiguous, tapering. Length of body with forceps: ♂ : 23 - 26,5 mm; ♀ : 20 - 29 mm.

Distribution: Mauritania, Morocco, Algeria, Tunisia, Spain.

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