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Brindleiana atlas gen. et sp. n. from SE Asia and Taxonomical Notes on Allodahliinae (Dermaptera, Forficulidae)

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Abstract — Dermapterans displaying a ledge-like rim on their elytra and previously considered as *Anechura* species were recently separated in the subfamily *Allodahliinae*. A new species and genus, deriving from Burma, is now added to the two known genera of the group: *Brindleiana atlas* gen. et sp. n. is described and treated in an identification key to all genera and species of the subfamily. With 14 figures.

In 1902, VERHOEFF (Zool. Anz., 1902: 194) separated and under the name *Allodahlia* assigned to a new genus those *Anechura* SCUDDER species which display a ledge-like rim along the lateral margins of the pronotum. This highly characteristical plesiomorphous feature served as the basis for the elevation of the group to subfamily rank by later classifiers, and the Oriental *Allodahlia* VERHOEFF species, together with the palaearctic *Eulithinus analis* RAMBUR, are ever since considered as the subfamily *Allodahliinae*.

The species of the group had several times been studied by BURR, DE HAAN, BEY-BIENKO, and BRINDLE, and the extremely well delimitable alliance is rather well known today. Phylogenetically, a certain relationship can be observed with the *Timomenus* BURR and *Acanthocordax* GÜNTHER species, relegated to the subfamily *Opisthocosminae*, in spite of their easy separation by external morphological characteristics. However, their mesosternum, body habit and the highly characteristic male cerci connect them with the Anechurids, and are separable only by the ledge-shaped rim of the elytra. The characteristic development of the cerci — observable in great outlines but in a simplified form also in the *Anechuras* — leaves no doubt that the Northern Oriental and Palaearctic species of the *Anechuras* are derivable from the *Allodahliinae*.

Allodahliinae STEINMANN, 1974

Pronotum quadratic, lateral margins parallel or nearly so; usually wide, wider than long, or only slightly longer than wide. Lateral margins of elytra with a ledge-like rim. Elytra shortened, rudimentary, wings absent, or elytra well developed and wings present.

Type-genus: *Allodahlia* VERHOEFF, 1902

Key to genera

1 (4) Elytra shortened, about as long as pronotum, or slightly shorter; lateral margins with a well discernible but narrow and not lamelliform ridge. Wingless species.

2 (3) Scapus short, about as long as half distance on frons between scapi; bending onto eyes reaching their anterior margins. Basal section on inner margin of male cercus with a well discernible characteristic pair of teeth, margin without further teeth. Pygidium wide, lateral angles with an obtuse but robust peg, thereby pygidium trapezoidal. European

Eulithinus HINCKS, 1935

3 (2) Scapus long, almost as long as frontal section between scapi; bending onto eyes reaching nearly their posterior margins. Basal section on inner margin of male cercus without a pair of teeth, subsequent margin with 2 pairs of teeth, characteristic of *Allodahlia* species. Pygidium wide, its lateral angle without peg, plate triangular. Oriental

Brindleiana gen. n.

4 (1) Elytra not shortened, considerably longer than pronotum, lateral margins with an expressed ridge-like rim, more or less lamelliform. Winged species

Allodahlia VERHOEFF, 1902

Eulithinus HINCKS, 1935

Head wide, smooth, eyes small, situated near scapi. Scapi small, only slightly longer than wide. Pronotum wide, flat; lateral margins slightly elevated like a ledge. Elytra short, rudimentary, rather squamiform, their posterior margins meeting in an obtuse angle. Wingless species.

Type-species: *Lithinus analis* RAMBUR, 1838

Small, length of body without cerci 6—7 mm. Ultimate male tergite wide; posterior margin largely transverse, but margin visibly and convexely crenellate. Basal section of cerci curved, apically straightened, beyond a straight section incurved. Pygidium wide, trapezoid, lateral angles peg-shaped. Male genitalia forficuloid in type; metaparameres long, narrow, more than five times longer than wide. Virga short, basal vesiculum resembling that of *Forficula* species, curved in about 200°. — Distribution: Spain

analis (RAMBUR, 1838)

Allodahlia VERHOEFF, 1902

Robust animals with a wide body. Generally black, blackish brown or brown. Antennae shorter, joint 4 about as long as or shorter than joint 3. Mesosternum wide. Lateral margins of elytra with a ledge-like rim. Eyltra wide, their shoulders rounded, wings whole. Male cerci characteristic, longer or shorter, but horizontally and vertically more or less arcuate; inner margins with one or two pairs of teeth. Pygidium with specific features well visible in a superior view; useful in identifications of species. Female cerci simpler, elongate. Male genitalia simple; genital lobe unpaired, virga within it long, sclerotized, or only basally so.

Type-species: *Forficula scabriuscula* SERVILLE, 1839

Key to species of *Allodahlia* VERHOEFF (partially after BRINDLE)

1 (2) Elytra tuberculate; almost entirely dull blackish species when fully mature. Pronotum with anterior angles produced. Posterior margin of male pygidium more or less truncate. Cerci comparatively thin, narrow and long; slightly arcuate as compared to those of its congeners, inner margins with a well discernible tooth (Fig. 1). — Distribution: India, Bhutan, Viet-nam, Java, Sumatra, Borneo, Formosa, South China, Philippine Islands

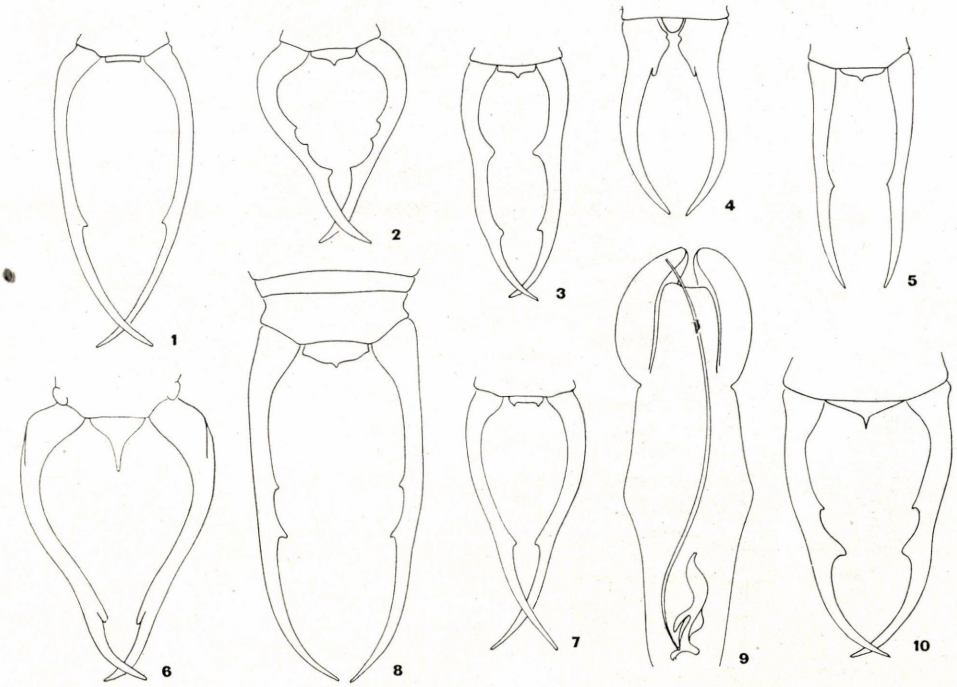
scabriuscula (SERVILLE, 1839)

2 (1) Elytra not tuberculate, sometimes strongly rugose. Pronotum not produced at anterior angles. Posterior margin of male mygidium rounded, produced medially, or with spines.

3 (8) Wings entirely yellow, or yellow at base. Elytra darker in colour.

4 (5) Wings entirely yellow. Each branch of male forceps more or less undulate, either strongly (Fig. 2) or weakly curved, and with one or two teeth on the inner margin of each branch. — Distribution: Burma, India orientalis, Sikkim

ochroptera BRINDLE, 1972



Figs. 1—10. Male forceps of 1 = *Allodahlia scabriuscula* (SERVILLE, 1839), 2 = *A. ochroptera* BRINDLE, 1972, 3 = *A. achrimanes* (BURR, 1900), 4 = *A. guptae* KAPOOR, 1968, 5 = *A. dineshi* GANGOLA, 1965, 6 = *A. ancylura* (DOHRN 1865), 7 = *A. bispina* BEY-BIENKO, 1959, 8 = *A. coriacea* (BORMANS, 1894), 9 = also its male genitalia, 10 = male forceps of *A. macropyga* (WESTWOOD, 1835).

5 (4) Wings not entirely yellow, the yellow confined to bases. Each branch of male forceps not undulate, slightly sinuate or evenly curved, with or without inner tetth on each branch.

6 (7) Eyltra reddish anteriorly, dark brown posteriorly. Male forceps with each branch slender, long, not broadened at base, but with two inner tooth (Fig. 3). Pygidium in superior view wide, well visibly wider than base of cercus near pygidium, with a minute tooth on medio-posterior margin. — Distribution: North India and Sikkim

achrimanes (BURR, 1900)

7 (6) Elytra unicolorous, reddish-black. Male forceps with each branch shorter, without inner teeth, but with the basal part broadened (Fig. 4). Pygidium in superior view comparatively narrow, basal section of forceps visibly wider, medio-posterior margin without a toothlet. — Distribution: India

guptae KAPOOR, 1968*

8 (3) Wings and elytra concolorous, blackish to reddish-brown, wings at most with a very small apical spot.

9 (10) Abdomen finely punctured. Male forceps with branches slender, each branch with one inner tooth (Fig. 5). Pygidium in superior view extremely wide, visibly broader than basal width of cerci: medio-posterior margin with a small, obtuse tooth. — Distribution: Kumaon

dineshi GANGOLA, 1965

*On the basis of the original description (Entomologist, 101: 80) and the figures published, we are probably dealing with a larve.

10 (9) Abdomen strongly punctured or rugose.
11 (12) Abdomen strongly and closely punctured. Male forceps wide, strongly arcuate, inner margins without pair of teeth in median section, but apical pair appearing as an obtuse peg each (Fig. 6). Pygidium well developed, its medio-posterior section with a strongly elongate peg (highly resembling that of *A. oxypyga* BEY-BIENKO, but this latter species with two pairs of teeth on inner margin of forceps). — Distribution: Philippine Islands

ancylura (DOHRN, 1865)

12 (11) Abdomen strongly punctured or rugose.
13 (14) Male forceps narrow, slender, median section of inner margins without a pair of teeth, apical pair well visible (Fig. 7). Angles of posterior margins of pygidium with a minute tooth each, somewhat resembling that of type-species, but angles of wide and flat pygidium of this latter without toothlets. — Distribution: China (Yunnan)

bispina BEY-BIENKO, 1959

14 (13) Male forceps wide, robust, thick; inner margins with two pairs of teeth each (Figs. 8, 10, 11, 13).
15 (16) Pronotum as wide as long, or slightly wider than long. Male forceps (Fig. 8) long, nearly parallel up to evenly incurving apices. Pygidium wdie, medio-posterior margin with reclinate, minute, hardly discernible tooth. Genitalia of holotype as in Fig. 9. — Distribution: North India, from Uttar Pradesh eastwards into Bhutan and Burma, and also in Viet-nam and Borneo

coriacea (BORMANS, 1894)

16 (15) Pronotum considerably widened, visibly broader than long. Male forceps widest in basal third, then gradually and arcuately narrowing. Median section of pygidium with an acute, reclinate, elongate tooth, thereby plate not triangular (Figs. 10—11).

17 (18) Dorsal surface of elytra and abdomen finely granulose, extremely dark, nearly black. Pronotum wide, as wide as head. Forceps dark, blackish brown, inner surface with teeth more adjacent to each other, thereby ultimate (apical) section of forceps longer (Fig. 10). Medio-posterior section of pygidium with a thin, aciculiform tooth. — Distribution: Himalayas, extending from the North Punjab and Kumaon, through Uttar Pradesh into Assam, Sikkim, Tibet, and Northern Burma. BURR (1910) also mentions a record from Mount Mulayit in Tenasserim, in Southern Burma, and from China

macropyga (WESTWOOD, 1835)

18 (17) Elytra and abdomen dorsally nearly smooth, pale brown, not granulose. Pronotum visibly narrower than head. Forceps brown, teeth on inner surfaces more removed from each other, thereby ultimate (apical) third of forceps shorter (Fig. 11). Medioposterior section of pygidium with an elongate but obtuse tooth, not narrow and not aciculiform. — Distribution: North Viet-nam

oxypyga BEY-BIENKO, 1970

Brindleiana gen. n.

Head wide, convex, eyes protruding. Scapi rather long, longer than wide. Pronotum wide, wider than long, lateral margins weakly arcuate. Elytra shortened, rudimentary, lateral margins with a narrow, not lamelliform ledge-like but still clearly visible rim. Of *Eulithinus* and not *Allodahlia* type. Wing absent.

Dedicated to ALAIN BRINDLE, Manchester, foremost research worker in the Dermaptera.

Type-species: *Brindleiana atlas* sp. n.

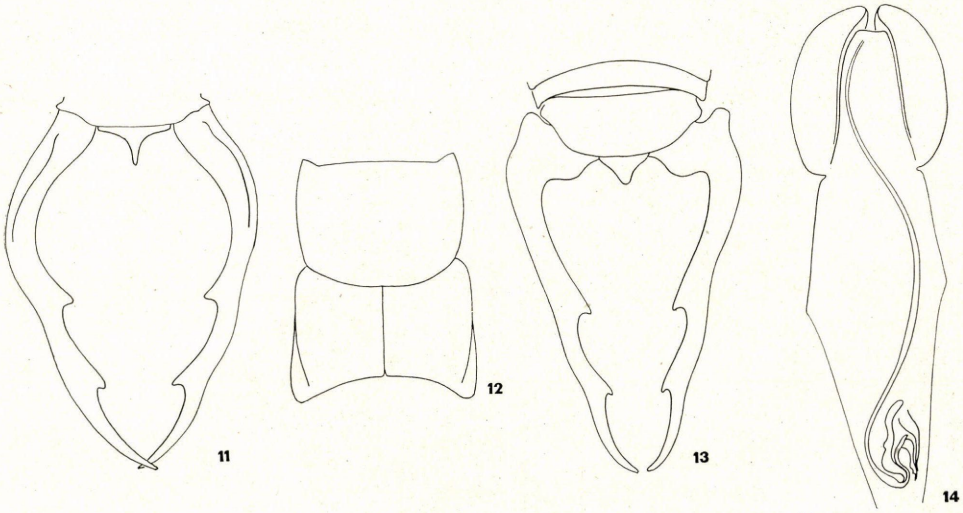
Brindleiana atlas sp. n. (Figs. 12—14)

Large-sized, dark brownish black. Head in superior view wide, large, eyes small, typical. Antennae pale brown, jointed.-Pronotum considerably widened, essentially wider than long; anterior angles visibly projecting, lateral margins arcuate, posterior margin arcuately rounded (Fig. 12). Wings absent. Abdomen widest at median section, with a greasy shine, entire body extremely finely punctate (but this sculpture by far not approaching that of *Allodahlia scabriuscula*). Ultimate tergite with lateral margins transitional into posterior margin (Fig. 13). Pygidium triangular, strongly developed, its projecting apex rounded. Forceps extremely robust, completely of the *Anechura* type (and if it were not for the ledged lateral margins of the pronotum, the species might be held superficially an *Anechura* species). In a lateral view, cerci displaying, beyond a wide basal section, an Anechuroid curvature; their teeth on the inner margins as in Fig. 13.

Male genitalia (Fig. 14) squat, medium elongate. Anterior section of paramere slightly constricted, metaparameres strongly widened, curving inwards, apically rounded. Apex of unpaired genital lobe slightly transversely truncate at rest, virga within it thick and long, basally recurved at 180°, bearing a sac with undulating margins.

Length of body (with forceps): 25 mm, forceps: 10.2 mm.

Holotype male: Burma, Mt. Victoria, Chin Hills, 2400—2800 m, IV. 38, leg: G. HEINRICH (gen. prep. No. 396, det. DR. H. STEINMANN). Deposited in the Hungarian Natural History Museum, Budapest.



Figs. 11—14. 11 = Male forceps of *Allodahlia oxypyga* BEY-BIENKO, 1970, 12 = pronotum and elytra of *Brindleiana atlas* sp. n., 13 = its male forceps, and 14 = male genitalia

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