

The systematic position of the genus *Bagdadia* (Gelechiidae)

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Summary. The systematic position of *Bagdadia* Amsel, 1949 is discussed; one synonymy at generic level (*Capidentalina* Park, 1995, **syn. n.**) and eleven new combinations are established. A lectotype is designated for *Bagdadia irakella* Amsel, 1949, and its male genitalia are illustrated.

Zusammenfassung. Die systematische Stellung von *Bagdadia* Amsel, 1949 wird diskutiert; ein Synonym im Gattungsrang (*Capidentalina* Park, 1995, **syn. n.**) und elf neue Kombinationen werden festgestellt. Ein Lectotypus wird festgelegt für *Bagdadia irakella* Amsel, 1949, und die männlichen Genitalien werden abgebildet.

Résumé. La position systématique de *Bagdadia* Amsel, 1949 est discutée; un synonyme au niveau générique (*Capidentalina* Park, 1995, **syn. n.**) et onze nouvelles combinaisons sont établis. Un lectotype est désigné pour *Bagdadia irakella* Amsel, 1949 et les genitalia mâles sont illustrés.

Key words: Lepidoptera, Gelechiidae, systematics, *Bagdadia*, synonymy, eastern Palaearctic.

Introduction

The gelechiid genus *Bagdadia* Amsel, 1949 has had an unfortunate early history. Originally placed in the family Scythrididae, its description was accompanied by an inaccurate drawing of the wing venation and an illustration of the wrong male genitalia. It is unsurprising, therefore, that the name has remained no more than a catalogue entry. *Bagdadia* was later transferred to the Gelechiidae (Sattler, 1973: 175) after the type-specimens of the type-species, *B. irakella* Amsel, 1949, ex coll. Wiltshire, had been examined and incorporated into the world collection of The Natural History Museum (British Museum [Natural History] — BMNH). A lectotype was selected at that time, but not formally designated, and preparations of the wings and male genitalia were made. As a result, *Bagdadia* was placed near

Hypatima Hübner and other chelariine genera and '*Nothris salicicolella* Kuznetsov was recognized as being congeneric with *B. irakella*. In the course of more recent studies of Far Eastern Chelariinae, further described and undescribed species were discovered and the genus was described a second time (Park, 1995: 84, as *Capidentalina*).

***Bagdadia* Amsel, 1949**

Bagdadia Amsel, 1949: 321. Type-species: *Bagdadia irakella* Amsel, 1949: 322, pl. 9, fig. 64, pl. 11, figs 78, 79, pl. 12, fig. 99, by original designation and monotypy. *Capidentalina* Park, 1995: 84. Type-species: *Hypatima claviformis* Park, 1993: 31, figs 9, 28, 47, 64, by original designation. — **Syn. n.**

Frons evenly convex, ocellus absent. Antenna about $\frac{2}{3}$ to $\frac{3}{4}$ length of forewing, scape without pecten. Proboscis developed, squamose; maxillary palpus probably four-segmented, folded over base of proboscis. Labial palpus recurved, segment 2 with dense sub-triangular tuft beneath, segment 3 as long as 2 or slightly longer, simple, acute. Forewing lanceolate-ovate with complete gelechiid venation. Costa with moderate pterostigma between Sc and R₃; R₄₊₅ stalked, R₅ to costa; M₁ at base approximated to R₄₊₅, M₂ at base approximated to M₃; distance (at base) M₃-CuA₁ slightly less than CuA₁-CuA₂. Hindwing sub-trapezoid, costa straight, termen weakly concave beneath apex. R₁ present, Sc+R₁ to distal third of costa, Rs and M₁ on long common stalk, M₂ strongly curved, at base near M₃, on termen almost equidistant between M₁ and M₂; M₂-CuA₂ separate at base. Male genitalia with uncus articulated at base, tilted dorsad, almost at right angles to body axis.

In the original description the genus *Bagdadia* was associated with the '*Metzneria-Isophrictis-Megacraspedus* relationship', which are undisputed Gelechiidae (Anomologinae), but was placed in the family Scythri[d]idae. That placement followed a concept of Börner (1925-1959), based on the presence or absence of a so-called 'Achselkamm' on the underside of the forewing.

The 'Achselkamm', a more or less extensive group of microtrichia, is the alar part of a wing-locking system and links up with a similar group of microtrichia on the mesepimeron to lock the forewing firmly to the sides of the thorax when the moth takes up its resting position (Sattler, 1991). It is situated on the

underside of the forewing, close to the wing base, where it covers part of the denuded humeral field, i. e. the basal area between the costa, vein Sc and the obsolete humeral cross-vein. The presence or absence of the 'Achselkamm' is closely dependent on the natural resting pose of a particular species, and it should be noted that the Gelechiidae *sensu* Börner comprise taxa with and without an 'Achselkamm'. Although Börner (1939: 1385) himself considered the 'Achselkamm', whose function remained unknown to him, to be of lesser importance and unsuitable for determining family groups, he had made some use of it in his keys and system adopted and variously modified in editions 3 to 8 of *Fauna von Deutschland* (Börner, 1925–1959). In that work he divided the 'Familienreihe Gelechioidea' into the Hyponomeutina and Gelechiina. Whilst the Hyponomeutina coincide more or less with the current Yponomeutoidea but include also the Alucitidae and Pterophoridae, the Gelechiina comprise the Gelechioidea in the current sense plus some Choreutidae. The Gelechiina are divided into only two families, distinguished by the presence (Gelechiidae; illustrated example: *Borkhausenia* Hübner, fig. 667) or absence (Scythrididae; illustrated example: *Coleophora* Hübner, fig. 669) of the 'Achselkamm' (Börner, 1959: 389). In terms of families as they are currently recognized (Karsholt & Razowski, 1996), Börner's Gelechiidae comprise the Ethmiidae, Depressariidae, Elachistidae, Agonoxenidae, Chimabachiidae, Oecophoridae (part.), Momphidae, Autostichidae (Symmocinae), Amphisbatidae, Cosmopterigidae (part.), Gelechiidae (part.) and Choreutidae whilst his Scythrididae comprise the Scythrididae s. str., Oecophoridae (Stathmopodinae), Batrachedridae, Coleophoridae, Cosmopterigidae (part.) and Gelechiidae (part.). From edition 5 onwards the genera *Paltodora* Meyrick, 1894, and *Metzneria* Zeller, 1839, were included in the Scythrididae: Scythridinae (Börner, 1944: 403).

Amsel was unable to ascertain whether *Bagdadia* had an 'Achselkamm' but placed the genus with *Metzneria* and *Isophrictis*, almost certainly on account of the great similarity of the genitalia as illustrated in his fig. 64. In fact, that illustration is erroneous; it has nothing to do with *B. irakella* but depicts probably a *Metzneria* sp. The correct genitalia are described and illustrated below under *B. irakella* (Fig. 3).

The wing drawings accompanying the original description (figs 78, 79) are crude and somewhat inaccurate with regard to the wing shape and proportions. For example, the hindwing tornus is less pronounced than illustrated. Moreover, a key character, 'the striking venation of the hindwing' (fig. 79) is a misinterpretation. The stalked veins labelled 'r₁' and 'rr' (=Rs) are in fact Rs and M₁ respectively, as one would expect. In the Gelechiidae vein R₁, if present, leaves Rs at about the basal third where it anastomoses with Sc; the first vein to reach the costa is therefore always Sc+R₁. That anastomosis of R₁ with Sc is clearly present in *Bagdadia* but was overlooked by Amsel; the apparent connection of Rs and Sc in his fig. 79 is a line irregularity in the original drawing. Vein 'm₁' is merely the median fold; it cannot be a true vein because it extends all the way from the base of the wing to the termen, across the discocellular vein, whereas in Gelechiidae the media is never present as a tubular vein in the cell.

The morphological structure, in particular that of abdominal sternite II and the male genitalia, indicates that *Bagdadia* is misplaced in Anomologinae and must be transferred to Chelariinae. In that subfamily the specialized articulated uncus places *Bagdadia* as a senior synonym of *Capidentalina* Park (**syn. n.**). In view of the great confusion in the original description, the incorrect family association, wrong genitalia and misinterpreted wing venation, it would seem forgivable that *Bagdadia* has been ignored in recent studies of chelariine Gelechiidae. However, the genus, its type species, *B. irakella*, and a second species, *B. salicicolella* (Kuznetsov), have been correctly associated with chelariine genera in the BMNH collection for over 30 years. Although Park has otherwise made extensive use of the BMNH collection, he seems to have overlooked *Bagdadia* when describing *Capidentalina*.

Biology. Host plants: unknown for all but three species. *Salix* (Salicaceae) (two species), *Sapota* (Sapotaceae) (one species).

Distribution. Iraq, central Asia, China, Russian Far East, Korea, Japan, Taiwan, Vietnam, India, Sri Lanka, Andaman Islands, Indonesia (Java), South Africa. A record for South America (Ponomarenko, 1997: 49) is in error (Ponomarenko, pers. comm.).

Checklist

Bagdadia Amsel, 1949

Capidentalialia Park, 1995, **syn. n.**

B. claviformis (Park, 1993) (*Hyapatima*) **comb. n.**

B. cymoptila (Meyrick, 1929) (*Chelaria*) **comb. n.**

B. eucalla (Li & Zheng, 1998) (*Capidentalialia*) **comb. n.**

B. gnomia (Ponomarenko, 1995) (*Capidentalialia*) **comb. n.**

B. irakella Amsel, 1949 (*Bagdadia*)

B. isosema (Meyrick, 1921) (*Chelaria*) **comb. n.**

B. paroctas (Meyrick, 1913) (*Chelaria*) **comb. n.**

B. salicicola (Park, 1995) (*Capidentalialia*) **comb. n.**

B. salicicolella (Kuznetsov, 1960) (*Nothris*) **comb. n.**

B. sapindivora (Clarke, 1958) (*Chelaria*) **comb. n.**

B. tugaella (Ponomarenko, 1995) (*Capidentalialia*) **comb. n.**

B. yanglingensis (Li & Zheng, 1998) (*Capidentalialia*) **comb. n.**

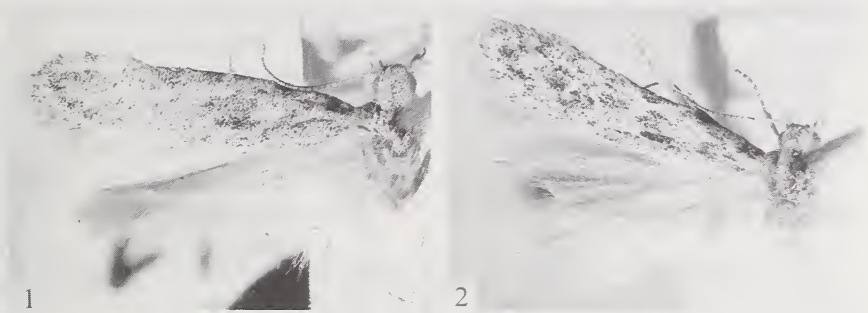
Bagdadia irakella Amsel, 1949

Bagdadia irakella Amsel, 1949: 322, pl. 9, fig. 64, pl. 11, figs 78, 79, pl. 12, fig. 99. LECTOTYPE ♂, IRAQ: Baghdad, 21.iii.1937 (*Wiltshire*) (genitalia and wing slides nos. 15 800; BMNH), **here designated.**

Genitalia ♂ (Fig. 3). Uncus trapezoid, distal margin truncate, with pair of short spines and three pairs of short to very short stiff setae. Distal part of gnathos hook of ploughshare shape, trailing edge with spines. Valva long, far exceeding uncus, moderately broad, widest at level of uncus, distally rounded. Anellus lobes pointed. Saccus tapered, distally rounded. Aedeagus curved, basal third bulbous, apex pointed.

Genitalia ♀ unknown. The only available female has lost its abdomen.

Remarks. *B. irakella* was described from three specimens. In the BMNH there are two specimens from Baghdad, labelled 'Typus ♂' and 'Typus ♀' respectively, the latter lacking the abdomen and left-hand wings; the male is here designated as the lectotype. It should be noted that, according to their labels, both specimens were collected on 21.iii., not 31.iii. as stated in the original description. The third specimen, a male from Karbala



Figs 1-2. *Bagdadia irakella* Amsel: 1 — lectotype ♂, BMNH; 2 — paralectotype ♀, BMNH (right-hand wings, image reversed).



Fig. 3. *Bagdadia irakella* Amsel, lectotype ♂, genitalia slide no. 15 800, BMNH.

desert, is currently not available and presumably is preserved in coll. Amsel, Landessammlungen für Naturkunde, Karlsruhe. It is the specimen from which presumably a genitalia preparation was made although the genitalia illustrated (fig. 64) are probably

those of a *Metzneria* sp. and, in any case, not those of *Bagdadia* (Fig. 3).

Biology unknown. The adults have been collected in March.

Distribution. Iraq (Baghdad; Karbala ['Kerbela'] desert; Gorashala ['Gora Skala']) (Amsel, 1959: 64).

Acknowledgement

The photomicrographs of the male genitalia were produced by the Photographic Unit, BMNH, those of the adults by Ms M. Vaswani, Department of Entomology, BMNH, London.

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