A new species of the genus *Eupterote* HÜBNER [1822] from Sumatra (Lepidoptera, Eupterotidae)

Wolfgang A. NÄSSIG

Abstract: A new species of *Eupterote*, *E. kageri* n. sp., is described from Sumatra as a part of forthcoming studies on the Sumatran Eupterotidae. The new species is small, with yellow ground colour. There is some tendency towards melanistic colouration, i.e. extension of the blackish fasciae of all wings in some specimens. The new taxon is illustrated in colour. It seems to be closely related to similar unrevised Indian species like, e.g., *E. lineosa* WALKER, 1855, or *E. todara* MOORE, 1884. It is tentatively described as species, because it is an endemic of Sumatra; continental specimens from Peninsular Malaysia, which appear to be closely related, are distinct in pattern and colouration and seem to be another species, as well as Javanese specimens. Genitalia morphology does not offer distinctive characters, as often in the genus. Biology and life history are unknown.

Eine neue Art der Gattung *Eupterote* HÜBNER, [1822], von Sumatra (Lepidoptera, Eupterotidae)


Introduction

The family Eupterotidae SWINHOE, 1892 is a small, mainly Palaeotropical (a few species in the New World) lepidopteran family in the complex of bombycoid families. The phylogenetic relationships within the family as well as to other bombycoid families have never satisfactorily been revised. It remains to be confirmed whether this arrangement of species in the family Eupterotidae as well as the arrangement of families in the Bombycoidea are truly monophyletic, compare the slightly differing opinions of, e.g., MINET (1986), HOLLOWAY (1987), and HOLLOWAY et al. (1987). FORBES (1955) was the only fairly recent author to undertake a family-wide study of the Eupterotidae. The reader may refer to him or to HOLLOWAY (1987) for a more detailed characterization of the family Eupterotidae. Due to the fact that eupterotid moths are not known as pests and are not members of the comparatively well-known holarctic fauna, not much is known about them, their ecology, their preimaginal morphology, and their systematics.
Candidates for most closely related families of the eupterotids are the Mediterranean Lemoniidae, the Australian Anthelidae, possibly the Afrotropical Sabaliidae, and (judging from the preimaginal instars; see photograph in, e.g., VILLIARD, 1976: 176) possibly at least some part of the American Apatelodidae. All of these families have very hairy larvae (densely covered with stiff bristles, similar to the Arctiidae) with highly spinous, poisonous bristles with barbed hooks, combined with an unusual long larval period (often several months), and usually a glossy, hard pupa near or in the soil (in a cocoon or sometimes without cocoon). The Lasiocampidae might perhaps represent the sistergroup of all the families cited above.

This group of families in total might be called the "lasiocampid/eupterotid branch" of the Bombycoidea, as opposed to the "saturniid/bombycid branch" of the superfamily, comprising the worldwide Saturniidae and the Neotropical Oxytenidae and Cercopidae as the "saturniid group"; further the Palaearctic Endromidae, the Palaecotropical/Palaearctic Brahmaeidae, the Australian Carthaeidae and the world-wide Bombycidae and Sphingidae as the "bombycid group", and possibly a few additional groups (e.g., Mimallonidae?) or species (e.g., Spiramia sp. comma HAMPSON, 1901, which was transferred to the Bombycidae by FLETCHER & NYE, 1982, but may perhaps better be placed in the Brahmaeidae, as more recently done by VARI & KROON, 1986).

During early stages of preparation of a monograph treatise on the Eupterotidae fauna of the Indonesian island of Sumatra a virtually undescribed species of the genus Euptero O HUBNER [1820] was discovered, which is described here prior to the publication of the family treatment. It is named in honour of Dr. Stefan KAGER, Nürnberg, Federal Republic of Germany, because he was the first who noticed this fact when receiving a batch of Sumatran eupterotid material from E. W. DIEHL in order to prepare a preliminary faunistic review of the family.

Euptero kageri n. sp.

Holotype: ♂, "Indonesien, N. Sumatra, Prapat, 1250 m [sic!], 3. 12. 81, leg. Dr. DIEHL", ex coll. KAGER in coll. BMNH, London. Fig. 3.

Paratypes:

In total 27 ♂♂:
11 ♂♂ in coll. NÄSSIG, leg. DIEHL (data: Mts. Dairi, 1500 m, 15. vii. 1986, genit. sl. no. 229/84 NÄSSIG; 10. x. 1980, Fig. 2; Mts. Dairi East, 1850 m, 23. viii. 1981; Sitahoan, 27. xi. 1981 [2 ♂♂], genit. sl. nos. 230 & 231/84 NÄSSIG; Sitahoan b. Prapat, 23.–25. xii. 1981, genit. sl. no. 232/84 NÄSSIG; Prapat, 1250 m, 7. xi. 1982; Prapat, HW 2, 26. x. 1986, Fig. 1; Toba Lake SW, Tele, 1150 m, 5. x. 1985); leg. ARBAIMUN: 2 ♂♂, Brastagi, ca. 1400 m, 9. x. 1983, one figured in Fig. 4.

Colour plate, Figs. 1–6: Specimens of Euptero kageri n. sp., holotype (Fig. 3) and paratypes. Fig. 1: ♂, bright specimen with reduced dark dots in anal angle; Prapat, HW 2, 26. x. 1986, leg. DIEHL, coll. NÄSSIG. Fig. 2: ♂, strongly darkened specimen; Mts. Dairi, 1500 m, 10. x. 1980, leg. DIEHL, coll. NÄSSIG. Fig. 3: ♂, holotype, "average specimen" in colouration; "Indonesien, N. Sumatra, Prapat, 1250 m [sic!], 3. 12. 81, leg. Dr. DIEHL", ex coll. KAGER in coll. BMNH, London. Figs. 4–6: ♂, bright specimen; Brastagi, ca. 1400 m, 9. x. 1983, leg. ARBAIMUN, coll. NÄSSIG. Fig. 5: "average specimen"; Dairi Mts. East, 1800 m, 28. vii. 1984, leg. DIEHL, coll. KAGER. Fig 6: ♂, Sigana, 700 m, 13. ix. 1980, leg. DIEHL, coll. NÄSSIG.
2 ♂♂ in coll. BMNH, leg. DIEHL, Toba Lake SW, Tele, 1150 m, 5. x. 1985; leg. ARBAIMUN, Brastagi, ca. 1500 m, 26. ix. 1984.

In total 5 ♂♂:
2 ♂♂ in coll. KAGER, leg. DIEHL (data: Prapat, 1250 m, 7. xi. 1982, one with an incomplete pupal exuvia).
1 ♂ in coll. NÄSSIG, leg. DIEHL, Sigana, 700 m, 13. ix. 1980, Fig. 6.
2 ♂♂ in coll. BMNH/London, leg. DIEHL (data: Prapat, HW 2, 1060 m, 14. x. 1985; HW 3, 2./3. ix. 1982).

There may be additional specimens in other collections (museums); the species does not appear to be scarce.

Type locality: Rep. Indonesia, Sumatra, Sumatera Utara, near Prapat [most likely DIEHL's standard locality "HW 3" on the road Pematang Siantar–Prapat, 1150 m; in 1981 the elevation of that place was not yet determined exactly].

Distribution: so far only known from North Sumatra. Vertical range of known specimens: 700–1900 m.

Diagnosis and discussion

The new taxon (Figs. 1–5 ♂♂, Fig. 6 ♂) is tentatively described on the level of species, because the differences in external morphology between Sumatran specimens and specimens of a similar taxon from the close Malayan Peninsula are much more conspicuous than the differences between the Sumatran material and probably related species from India like E. lineosa WALKER, 1855, or E. todara MOORE, 1884, etc. The Malaysian taxon, apparently still unnamed, is known only from a very few specimens so far and seems to be much rarer than the Sumatran E. kageri. Similar small yellow Javanese specimens in BMNH/London may belong to more than one species and differ in wing pattern, size, colouration from the Sumatran specimens as well.

Genitalia morphology (Figs. 7 & 8): Armatures very small, in accordance with the size of the species; groundplan similar to most other species of the genus (compare HOLLOWAY, 1987: figs. 75–83). The scobination of the vesica of the aedeagus is mostly reduced. Genitalia morphology does not offer good characters to distinguish these taxa; but this is the case in most groups of the genus Euperote. This is not surprising, because the male genitalia of all species of the genus are very much reduced and simplified and thereby as a consequence do not possess many characters where morphologically distinctive changes may occur during evolution of species.

The new species is the smallest Euperote species on Sumatra; it is at once identified by its contrasting colouration in bright yellow and black and the usually two, mostly quite prominent dark dots in the anal angle of the forewings. Other Sumatran euperotids are always larger and usually do not show the very contrasting colouration, especially not just two dots in the anal angle, or on average they exhibit a much darker ground colour (not yellow, but reddish or brown etc.).

The new taxon is included in the genus Euperote according to the generic concept of HOLLOWAY (in BARLOW, 1982: 190); it is probably a member of the species-group of yellowish taxa including the nominotypical fabia Cramer.
Figs. 7 & 8: Male genitalia of *Eupeirote kageri*. Scale bar 0.5 mm. **Fig. 7**: GP 229/84 NÄSSLIG, lateral view. **Fig. 8**: Aedeagus, stronger enlarged. GP 230/84 NÄSSLIG. Extraordinary small armatures for a bombycid moth, with many reductions and simplifications.

**Variability:** Compare Figs. 1–5. The ground colour ranges from bright whitish yellow to deep yellow; the colour of the dark pattern varies from nearly black to dark brown. Some part of this variability may be explained by a fading of the colours through the individual lifespan of a specimen (caused by sunlight during day), but this will probably not be responsible for the full range of variability. The two dots in the anal angle of the forewings are usually quite prominent, only missing in a few specimens (e.g., Fig. 1). Sometimes there may be 1–2 additional, but much smaller dots in the apical area of the forewings. The dark fasciae on the wings are variable in extent, intensity of colour, and even number; compare Figs. 1–5 (melanistic specimens like in Fig. 2 are rare). According to the few females known, variability seems to be smaller in the female sex. The ground colour of the ♀ is deeper (darker) yellow than that of the ♂♂ (Fig. 6).
References


Address of the author:

Dipl.-Biol. Wolfgang A. Nässig, Zoologisches Institut der Universität, Siesmayerstrasse 70, D-6000 Frankfurt, Fed. Rep. Germany