

On the systematic position of “*Syntherata*” *loepoides* BUTLER and its allies (Lep., Saturniidae)

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Abstract: The status of the South-East Asian saturniid taxa currently in the genus *Syntherata* MAASSEN is reviewed as part of a wider study of the Saturniidae of the region.

These taxa are not congeneric with Australasian *Syntherata* and are therefore placed in a new genus, *Lemaireia* (type species, *loepoides* BUTLER), which may not be even distantly related to the homogeneous complex of Australasian genera that includes *Syntherata*. Possible relationships are discussed.

Two taxa are already described: *loepoides* BUTLER (Sundaland excluding Java) and *chrysopeplus* TOXOPEUS (Java, Sumatra). These are treated here as distinct species. A new mainland Asian species, *luteopeplus*, is described, probable sister-species to *chrysopeplus*. The typical race flies in Assam; a distinct race, ssp. *aureopeplus*, ranges through Burma and N. Thailand, eastwards to N. Vietnam and probably China (Yunnan).

Hypotheses of the course of speciation within the group are presented.

Zusammenfassung: Vorbereitende Untersuchungen zur Saturniidenfauna der Insel Sumatra erbrachten folgende Zwischenresultate, die im Vorgriff zur Fauna publiziert werden:

1. Die kleinen, gelb-roten Saturniidenarten des Sundalandes, die bisher üblicherweise zur Art „*Syntherata*“ *loepoides* BUTLER gestellt wurden, sind tatsächlich zwei getrennte Arten (*loepoides* und *chrysopeplus* TOXOPEUS), die sich kraß durch die Morphologie des männlichen Genitalapparats sowie durch die nahezu inverse Farbabfolge des Hinterflügelaugenflecks und die Größe unterscheiden; weitere Unterschiede werden vorgestellt.

2. Die Plazierung der beiden Arten innerhalb des Genus *Syntherata* MAASSEN ist morphologisch und phylogenetisch nicht haltbar; die Arten gehören wohl nicht zum offensichtlich monophyletischen Gattungenkreis der Saturniini Australiens und Neuguineas (Gattungen *Opodiphthera* WALLGR., *Syntherata* MAASS., *Austrocaligula* COCKERELL, *Pararhodia* COCK., *Neodiphthera* FLETCHER). Es wird deshalb die neue Gattung *Lemaireia* (Typusart *loepoides* BUTLER) dafür errichtet.

3. Es konnten weitere Populationen von Faltern nachgewiesen werden, die auf dem asiatischen Kontinent leben und als eine dritte Art mit zwei Unterarten in der Gattung *Lemaireia* neu beschrieben werden: *Lemaireia l. luteopeplus* aus Assam, Khasia-Gebirge, sowie *L. l. aureopeplus* aus Burma und Nordthailand. Von allen genannten Taxa wird eine Karte mit den heute bekannten Fundstellen vorgestellt.

4. Die Verwandtschaftsverhältnisse innerhalb der neuen Gattung werden wie folgt erklärt: *L. luteopeplus* und *L. chrysopeplus* sind nahe verwandte Schwesterarten; beide zusammen sind die Schwestergruppe zur dritten Art *loepoides*. Dies wird morphologisch und zoogeographisch belegt. Die Verwandtschaftsverhältnisse der neuen Gattung zu anderen Saturniideengattungen können mangels vorliegender Informationen noch nicht geklärt werden.

¹⁾ 10th contribution to the knowledge of the Saturniidae (9th contribution: Nachr. ent. Ver. Apollo, Frankfurt, N. F., 7 [1]: 12–15).

Introduction

During the preparation of an account of the Saturniidae fauna of Sumatra (to be published within the HS series) the attention of one of the authors (WAN) was drawn to the relatively small yellowish saturniid moths usually placed in the genus *Syntherata* MAASSEN [1873]. In Sumatran material, mainly collected by E. W. DIEHL, two different types of moth were found, slightly differing in size and showing a nearly inverse coloration in the wing ocelli, especially of the hindwing (see Fig. 1 a/b).



Fig. 1: Right hindwing of males of the two taxa *chrysopeplus* TOXOP. and *loepoides* BTL., showing the inverse coloration of the wing ocellus. **Fig. 1a:** *chrysopeplus*, Indonesia, North Sumatra, Dairi Mts., 1500 m, leg. DIEHL 9. XI. 1980. The innermost ring encircling the hyaline centre is reddish, the outer ring dark brownish black. **Fig. 1b:** *loepoides*, Indonesia, N. Sumatra, Sindar Raya, 350 m, leg. DIEHL 23. V. 1980, genitalia slide W. NÄSSIG no. 94/83. The innermost ring is brownish black, the outer one reddish. This difference between the two taxa is constant and very easily seen. (Photographs nos. 1a = SM 14, 1b = SM 12 in the colour slides archive of the senior author.)

During routine dissection of male genitalia surprisingly large differences were found between these two types of moths. Additional information was gathered in the collection of the British Museum (Natural History) in London by JDH. Discussing these observations with Claude LEMAIRE, the well-known Saturniidae specialist, revealed that he had assessed the situation some years earlier, but did not publish his findings as his work on the American Saturniidae was given priority. The results of our studies are presented here prior to the faunistic work to clarify the taxonomy of this group of species and rationalise the generic placement by description of a new genus.

History

In [1873] MAASSEN (see FLETCHER & NYE 1982) erected the genus *Syntherata* for the newly described Australian species *weymeri* MAASSEN (type-species of the genus therefore by monotypy), now considered to be a form of the polymorphic species *janetta* WHITE, 1843 (e. g. BOUVIER 1936).

In 1880 BUTLER described a new species from Borneo, *loepoides* (the female holotype is in BMNH), within the genus *Antheraea* HÜBNER [1819]. This species was later transferred (probably first by KIRBY 1892) to *Syntherata*, obviously merely because of the similar appearance, a resemblance to yellow and red leaf litter (see color figs.). Virtually all subsequent authors adopted this placement (e. g. SEITZ 1926, BOUVIER 1936, ALLEN 1981, LAMPE 1984).

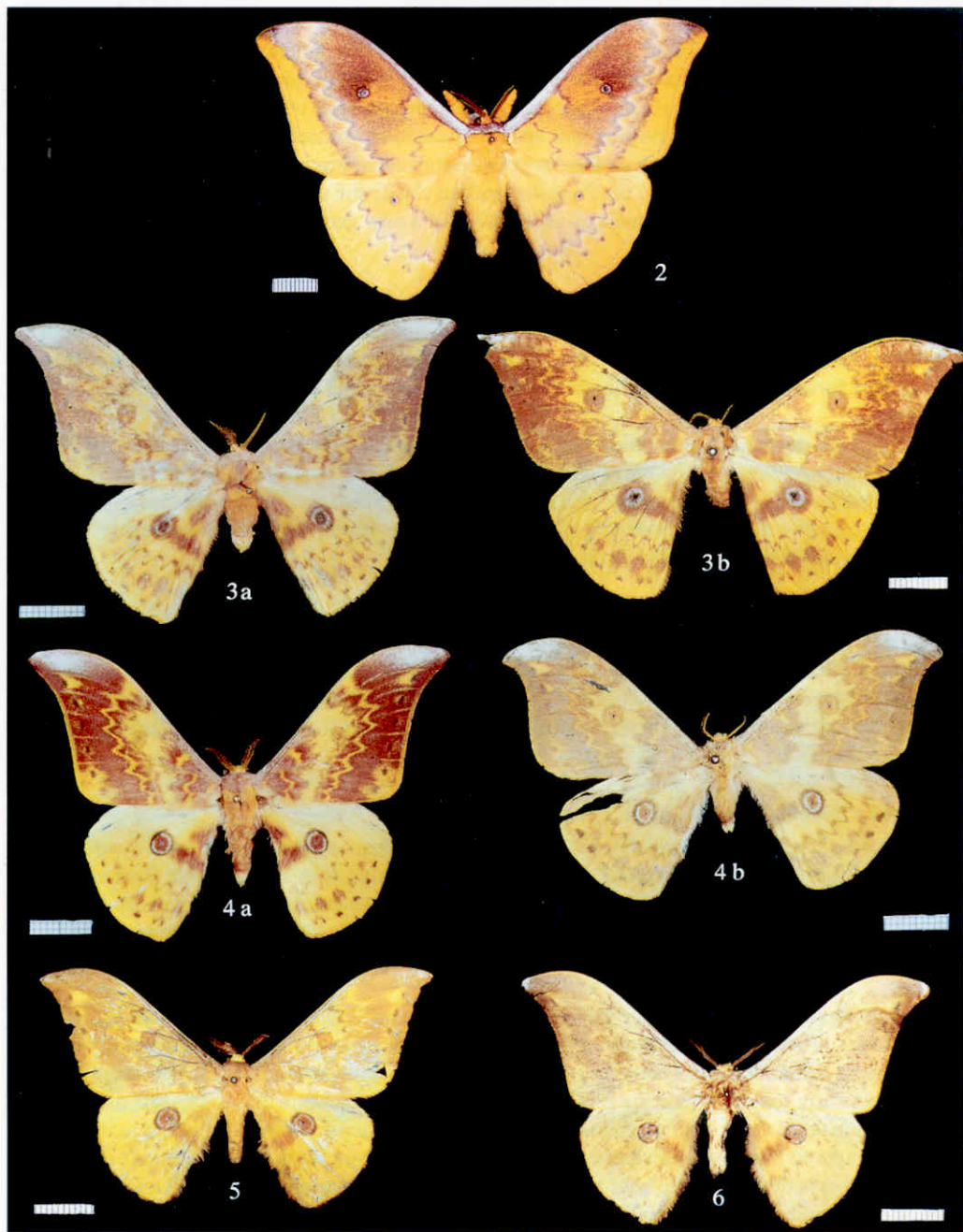
In 1940 TOXOPEUS described a taxon as subspecies of *Syntherata loepoides* from Java, *chrysopleus*. He did not have material of real *loepoides* before him, but his description is very detailed, especially regarding the ocelli on the wings, permitting a clear identification of the Javanese taxon. Paratype material in the Museum Zoologicum Bogoriense has been examined by JDH; the holotype has not been located. We have used material from Java in BMNH/London and RMNH/Leiden (Netherlands) for comparative studies.

The generic placement of the taxa

Comparison of the male genitalia of the taxa *loepoides* and *chrysopleus* with those of *Syntherata janetta* as the type species of the genus *Syntherata* (see Figs. 8a, 9a, 10a) indicates that there is no close relationship between these two groups. The male genitalia of *S. janetta* show some very distinctive dorsal "protuberances" on the valves and a different uncus structure (the uncus in *S. janetta* is bifid, although the two arms are fused over most of the length).

In general, the Australasian genera *Opodiphthera* WALLENGREN, *Syntherata* MAASSEN, *Austrocaligula* COCKERELL, *Pararhodia* COCKERELL, and *Neodiphthera* FLETCHER show great uniformity in male genitalia, with distinctive features such as a very deep tegumen and prominent processes from the base of the valve costa that may indicate monophyly for the whole group. The aedeagus is usually only weakly scobinate, if at all, with no spines in the vesica. The structure of the saccus and juxta in these genera is similar to that in the taxa treated here, but the uncus, even when basally domed (*Pararhodia meeki* JORDAN) is divided at the base and bifid apically rather than entire as in *loepoides*. (A complete and comprehensive revision of the Australasian Saturniidae would be valuable.)

The South-East Asian species do not show these valvular processes and have a dome-like, entire, hooked uncus (see Fig. 7); their aedeagus has a peculiar form and is spined apically (Figs. 9–12). It is therefore necessary to erect a new genus for the SE Asian species, named in honour of our friend Dr. Claude LEMAIRE, Gordes, France, who first investigated the complex, in recognition of his great work in Saturniidae systematics.



Figs. 2–6: Imagines of *Syntherata* and *Lemaireia*. The specimens are not figured to the same scale, but a scale near every figure is given (1cm). **Fig. 2:** *Syntherata janetta* WHITE, male; Australia (BMNH phot.) for comparison. **Fig. 3:** *Lemaireia loepoides* BUTLER; 3a: male, North Sumatra (coll. et phot. WAN, no. XW 28); 3b: female, holotype, BMNH, Borneo. **Fig. 4:** *Lemaireia chrysopeplus* TOXOPEUS; 4a: male, North Sumatra (coll. et phot. WAN, no. XW 37); 4b: female, Java, coll. RMNH Leiden (phot. WAN no. XW 32). **Fig. 5:** *Lemaireia luteopeplus luteopeplus* n. sp., holotype, North India (BMNH phot.). **Fig. 6:** *Lemaireia luteopeplus aureopeplus* n. ssp., holotype, [Burma] (phot. WAN no. XK 31).

Lemaireia n. gen.

Gender feminine, type-species *Antheraea loepoides* BUTLER

Lemaireia is restricted to the Oriental tropics (see Fig. 13, map). Definitive features are primarily found in the male genitalia: the dome-like, single uncus with the "hook" directed ventro-anteriorly; the spining of the aedeagus apex and vesica (see figs.). Differences in male genitalia from Australasian species have already been mentioned, but there are also differences in the wing ocelli: in *Lemaireia* the ocelli consist of several more or less concentric rings of one colour; in most Australasian species as well as in most other Asiatic Saturniinae these rings consist of opposed, asymmetric, lunular "semi-circles" (some exceptions, e. g. *Syntherata janetta* itself, show secondary reduction or other apomorphic features). More differences can be seen from the colour illustrations.

The females of *Lemaireia* have the ductus bursae much more heavily sclerotised than in the Australasian complex (only *Syntherata janetta* examined), and there are sclerotised pouches in the lamella vaginalis on either side of the ostium. There is no signum in *S. janetta*; in *Lemaireia* there is a single spine on the ventral side of the bursa.

Head (see fig. 14) rounded, in *L. loepoides* slightly smaller in diameter than in *L. chrysopleplus*; the labial palpi are 3-segmented; the proboscis is strongly reduced, not coiled; the galeae are not fused and probably cannot be used for sucking; their length is about $9/10^{\text{th}}$ of the head's height in *L. loepoides*, but only $1/2$ in *L. chrysopleplus*, the antennae are quadripectinate in the male, but only bipectinate in the female, where the apical rami are strongly reduced; the number of antennal segments is greater than 20, but obviously not constant. The tarsi of the legs are 5-segmented; the anterior legs bear long epiphyses of more than about $3/4$ of the tibia's length, with a series of specialized scales on the tibia facing the epiphysis looking like a brush.

At present, as in many other cases in Saturniidae, though we have a very strictly defined monophyletic taxon at the generic level, the phylogenetic relationship to other such well-defined genera is unclear. The unusual uncus structure may prove to be homologous with other rounded, single, dome-like uncus structures in groups like some African Bunaeini or the subfamily Salassinae (in the higher classification of MICHENER 1952). In most other Asian Saturniidae the uncus is clearly bifid. It would be easier to clarify the position of *Lemaireia* if a phylogenetic hypothesis for all Saturniinae genera were available. The general shape of the antennae and their structure after drying, which seems to connect the Bunaeini species with the Salassinae, is not shared by *Lemaireia*. In shape of the antennae *Lemaireia* does not differ significantly from any Saturniini species. An interpretation of the peculiar uncus structure of *Lemaireia* as having developed from the "fused bifidity" of a *Syntherata*-like ancestor, thus assuming a sistergroup relationship of *Lemaireia* and some part of or all Australasian Saturniinae, cannot be excluded completely, although perhaps is less likely. In that case, we have to assume that the peculiar valvular processes in the Australasian species, surely a synapomorphy of this group, must then either have been reduced in *Lemaireia*, or *Lemaireia* branched off before this character developed. More facts have to be found out, especially for example on the preimaginal morphology of *Lemaireia* and its potential relatives, before we will be able to decide which of the above hypotheses is more plausible. Our present knowledge of apomorphic versus plesiomorphic conditions of characters in the family is too fragmentary.

The species

It is clear now that *loepoides* and *chrysopleplus* **stat. nov.** are two distinct species characterized by external characters (especially coloration of hindwing ocellus and size) as well as internal characters

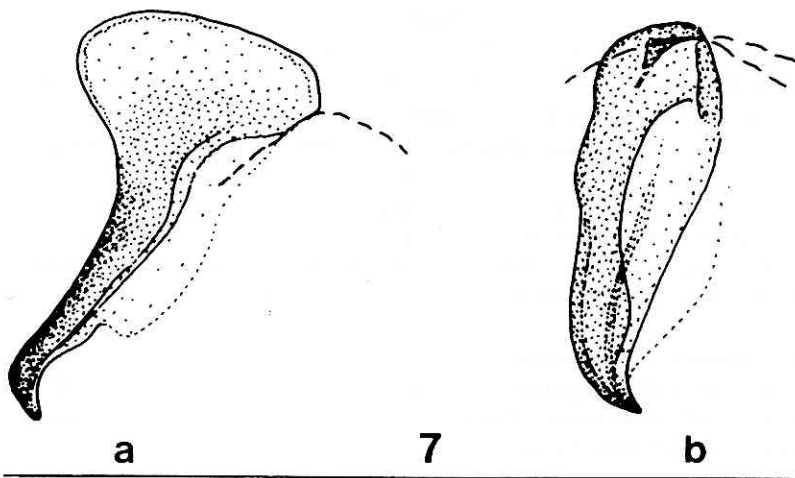


Fig. 7: Dorsolateral view of the uncus of a = *L. loepoides* BTL., b = *L. chrysopeplus* TOXOP., schematic (JDH).

(male genitalia see above and figs.; in the female genitalia the pouches in the lamella vaginalis are more developed in *L. loepoides* than in *L. chrysopeplus*, but the ductus is more sclerotised and convolute in the latter). The two species live sympatrically in Sumatra, but have not yet been found together elsewhere (see map, Fig. 13).

Studies of the material in BMNH and in other collections revealed that there are two more populations in the new genus, very closely related to *chrysopeplus*, but differing mainly in some features of the male genitalia. We describe them tentatively as two subspecies of a new species as follows:

***Lemaireia luteopeplus* n. sp.**

Type material:

Holotype male: "Khasia Hills. Assam.", "Rothschild Bequest B. M. 1939-1", Saturniidae genitalia slide BMNH no. 531, in coll. BMNH. (See Fig. 5.)

Paratype male: same labels, genitalia BMNH Sat. no. 551, in coll. BMNH.

Lemaireia luteopeplus luteopeplus is currently only known from the Khasia Hills in northeastern India; more fieldwork seems very necessary in the northeastern Himalaya to establish the true range.

***Lemaireia luteopeplus aureopeplus* n. ssp.**

Type material:

Holotype male: [Burma], "Karen Hill" and some illegible handwritten remarks, "INDIA: W. Archibald, B. M. 1926-391", BMNH genitalia slide Saturniidae no. 548, in coll. BMNH. (See Fig. 6.)

Paratypes:

3 ♂♂, Doi Ang Khang, Fang Distr., Chiangmai Prov., 1450 m, 20. v. 1986 (genitalia slides 2263 + 2264 Hans BÄNZIGER, Chiangmai; examined);

2 ♂♂, same locality, but 21. v. 1986 (g. sl. 2165 HB; exam.);

1 ♂, near Sarn Chao Mae Nang Kao, Doi Saket Distr., Chiangmai Prov., 1010 m, 29. VIII. 1980 (g. sl. 2265 HB; exam.);

1 ♂, Huay Nam Dang, Mae Taeng Distr., Chiangmai Prov., 1690 m, 5. VIII. 1986 (g. sl. 2255 HB; exam.); 1 ♀, near top Doi Suthep, Chiangmai Prov., 1610 m, 1. IX. 1980; all leg. et in coll. H. BÄNZIGER, Chiangmai;

1 ♂, Chiangmai University Campus, ca. 350 m, 5. IX. 1979 (g. sl. 2267 HB; exam.);

1 ♂, Pa Kia, Chiangdao Distr., Chiangmai Prov., 1550 m, 1. IX. 1981, leg. Dr. V. HENGSAWAD (g. sl. 2266 HB; exam.);

1 ♀, same locality, but 3. XI. 1980, leg. C. SIWASIN; all in coll. DEFACU (Department of Entomology, Faculty of Agriculture, Chiangmai University, Chiangmai), kindly dissected and communicated by H. BÄNZIGER;

4 ♂♂, 3 ♀♀, Doi Pui, Chiang Mai, NW-Thailand, collecting data: 1 ♀ 2. VI. 1984, 3 ♂♂ + 2 ♀♀ 9. VI. 1984, 1 ♂ 20. VI. 1984; all in coll. R. LAMPE, Nürnberg;

1 ♂, Doi Pui, Chiang Mai, NW-Thailand, VI. 1984 (genitalia slide 296/85 W. NÄSSIG), in the collection of the senior author (Frankfurt), kindly given by R. LAMPE.

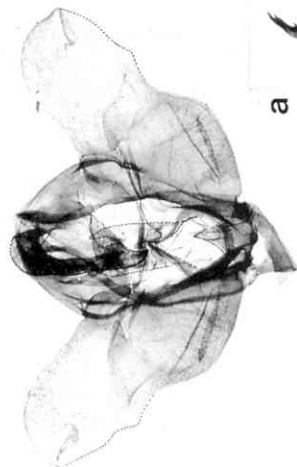
Additional material studied:

A male (genitalia slide no. 3486 C. LEMAIRE, MNHN, Paris; examined) and a female in MNHN in Paris (ex coll. LE MOULT via coll. C. LEMAIRE) from Tonkin, Chapa, [Northern Vietnam] agree well with the Burmese and Thai specimens of *L. luteopeplus aureopeplus* and extend the known range of that taxon considerably to the East (see map).

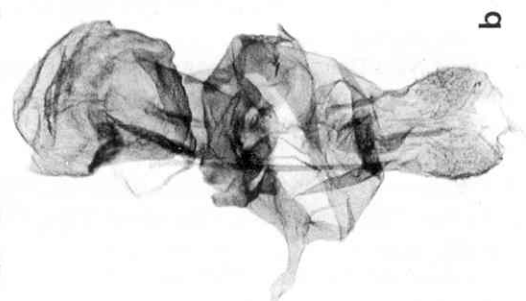
The specimen figured by CHU & WANG (1983) under the name "*bepoides* BUTLER" (a misspelling of *loepoides*) surely belongs to the *luteopeplus* complex and extends the range into China, Yunnan. We expect that the Yunnan population might belong to *aureopeplus*, but have not seen any Chinese material so far.

Diagnosis

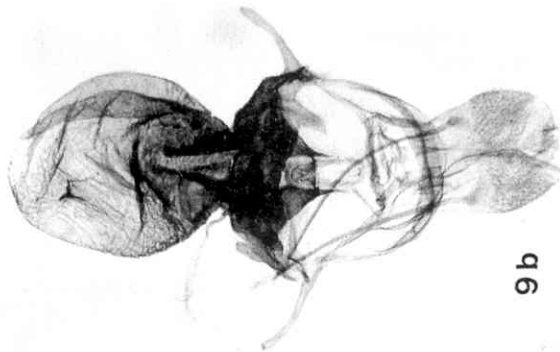
Lemaireia luteopeplus resembles *L. chrysopeplus* closely; the differences from *L. loepoides* are as described for *L. chrysopeplus*. There do not appear to be external characteristics that distinguish *chrysopeplus* from *luteopeplus* reliably. In the male genitalia (see figs.) there are good differences: the valves of *luteopeplus* are set at a greater angle to the tegumen, more pointed at the apex than in *chrysopeplus*, and with three to four distinctive processes on the interior surface; the aedeagus of *chrysopeplus* is more slender and slightly longer, the sclerotized spines at its apex less pronounced and smaller in number than in *luteopeplus*. The subspecies *l. luteopeplus* and *l. aureopeplus* differ in the shape of the valve apex and position of the interior processes; the aedeagus vesica of *l. aureopeplus* tends to have more numerous spines at the apex. There is some variation in the male genitalia of the two subspecies, and it would be valuable to have some more material (especially of the nominate subspecies) to check the range of that variability.



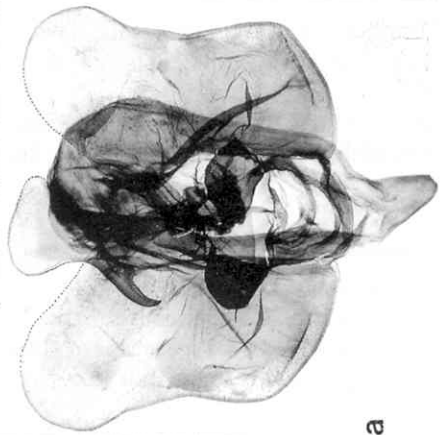
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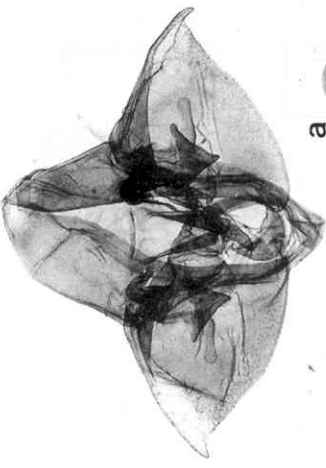
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9b



9a

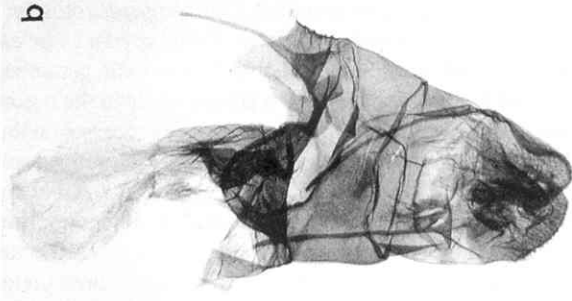


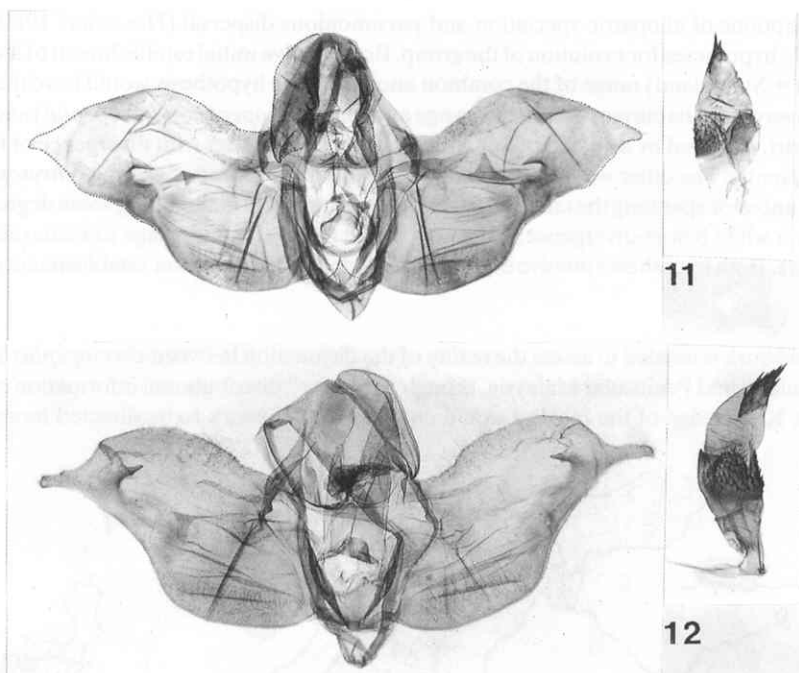
a



b

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Figs. 8–12: Genitalia of *Syntherata* and *Lemaireia*. The specimens figured are not to the same scale; the span from valve apex to valve apex in reality is about 7 mm in *L. loepoides* and *L. luteoepplus*, in *L. chrysopeplus* it is about 6 mm (BMNH phot.). **Fig. 8:** *Syntherata janetta*; 8a = male, Queensland, BMNH slide no. Sat. 549; 8b = female, New Guinea, BMNH no. 550. **Fig. 9:** *Lemaireia loepoides*; 9a = male, Borneo, BMNH no. 529; 9b = female, W. Malaysia, BMNH no. 546. **Fig. 10:** *L. chrysopeplus*; 10a = male, Java, BMNH no. 530; 10b = female, Java, BMNH no. 545. **Fig. 11:** *L. luteoepplus luteoepplus*, Assam, holotype, BMNH no. 531. **Fig. 12:** *L. luteoepplus aureoepplus*, [Burma], holotype, BMNH no. 548. In all male genitalia the aedeagus is removed and photographed separately.

Sexual dimorphism is comparatively small in *L. chrysopeplus* and *L. luteoepplus*; some females are so close to the corresponding males in size, wing shape, and coloration that only close examination of the tip of the abdomen or the antennae reveals their sex. In *L. loepoides* the females seem to be slightly dimorphic. Besides bright females approximating in colour to the male (e. g. the holotype) there are specimens that are strongly darkened, e. g. as illustrated by ALLEN (1981), plate 17.

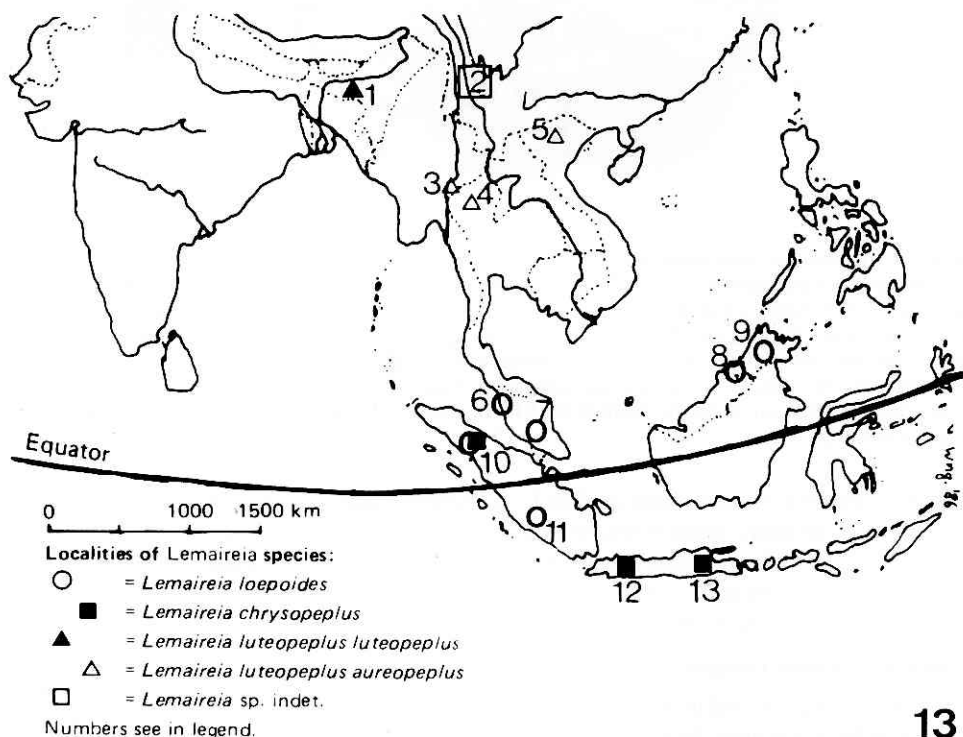
Relationships within *Lemaireia*

The similarities of facies and male genitalia of *L. chrysopeplus* and *luteoepplus* suggest they are sister-species, with *loepoides* more distantly related (Fig. 15). However, because of the uncertainty of the position of the genus in the Saturniidae, assessment of these features as synapomorphies through out-group comparison is difficult. Shared features of the male genitalia of *chrysopeplus* and *luteoepplus*, such as the interior processes of the valves and elongation of the juxta laterally into two tongues dorsad, are rarely seen elsewhere in the Saturniinae to our knowledge and are therefore potential synapomorphies.

The only geographical overlap of taxa in the genus evident so far is in Sumatra between *loepoides* and *chrysopeplus*, circumstantial support for our phylogenetic hypothesis in that overlap is perhaps more likely between more distantly related taxa.

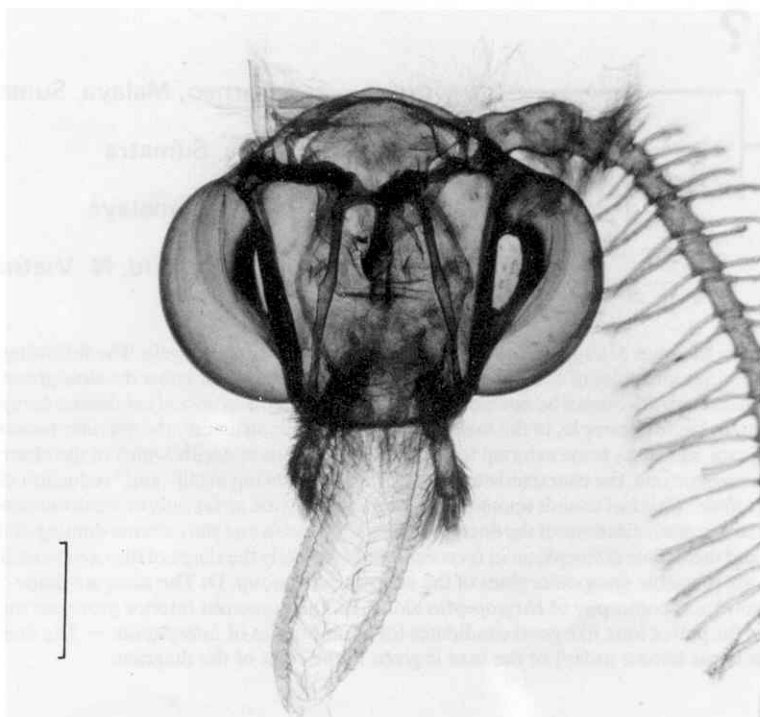
With assumptions of allopatric speciation and parsimonious dispersal (HOLLOWAY 1982), there are two possible hypotheses for evolution of the group. Both involve initial establishment of a wide (mainland Asian + Sundaland) range of the common ancestor. One hypothesis would have the *loepoides* ancestor diverging in its current Sundanian range and the (*chrysopeplus* + *luteopeplus*) ancestor in the northern part, followed by invasion of Sumatra and Java by the latter with divergence of the two species subsequently. The other would restrict *loepoides* initially to Borneo, with the (*chrysopeplus* + *luteopeplus*) ancestor spanning the current range of the two taxa and maintaining some degree of genetic contact for a while before divergence; *loepoides* would then extend its range to Peninsular Malaysia and Sumatra. Both hypotheses involve one episode of range extension after establishment of the initial range.

Further fieldwork is needed to assess the reality of the disjunction between *chrysopeplus* and *luteopeplus* in Thailand and Peninsular Malaysia, though "negative" distributional information can never be conclusive. Knowledge of the biology would enable such fieldwork to be directed more precisely.



13

Fig. 13: Known distribution of *Lemaireia* species. 1 = type locality of *L. luteopeplus* in N. India, Assam. 2 = "Yunnan", after CHU & WANG (1983) (locality not specified). 3 = Burma, "Karen Hills" (type locality of *L. l. aureopeplus*). 4 = North Thailand, vicinity of Chiangmai (many localities). 5 = Northern Vietnam, "Chapa"; a pair in Paris, MNHN. 6 = Northern part of the Malay Peninsula, several localities, e. g. Penang (MNHN). 7 = Central part of the Peninsula, several localities in Cameron Highlands, Bukit Kutu, Genting Highlands. 8 = Brunei (ALLEN 1981). 9 = Borneo, Kinabalu area. All Sumatran localities will be listed in detail in the faunal work "The Saturniidae of Sumatra"; 10 = North Sumatra, several localities. 11 = West Sumatra. 12 = Java, western part, several localities and type locality of *L. chrysopeplus*. 13 = Java, eastern part: "Mt. Gedeh" — this must be a mountain not identical with the identically named Gunung Gedeh in the western part of the island; we have not verified the exact location (one specimen in BMNH).



14

Fig. 14: Head of *Lemaireia loepoides*, North Sumatra (slide no. 387/86 WAN). The proboscis is nearly as long as the head's height; in *L. chrysopeplus* it is about only $\frac{1}{2}$ of this measure. Details see text. Scale bar: 1 mm.

Biology

Apart from notes on the cocoon of *L. chrysopeplus* by TOXOPEUS (1940) nothing is known of the early tages. Toxopeus wrote:

"... the ♀ cocoon was found in a decayed *Eupatorium* leaf, which had no doubt *not (italics by TOXOPEUS!)* been its real food plant. This cocoon has a spindle-like form; it is woven of rather coarse brownish and greyish silk, but the inner surface is very soft, white and shiny. The pupal shell is redbrown, smooth, with a dark brown front and dark-ringed stigmata. The larval skin (which got lost) was well covered with hair."

In summer 1986 E. DIEHL mailed some ova of *L. loepoides* from a female collected in North Sumatra. The ova were deposited in small clusters. Their ground colour seems to be whitish, but they are densely covered with dark brown adhesive secretions. The ova are extraordinary small for a saturniid (largest diameter only slightly longer than 1 mm), in shape, as usual in Saturniidae, ovoid, slightly flattened, the micropyle on the smallest side. Regrettably no caterpillars eclosed from these ova. So the preimaginals still remain to be studied.

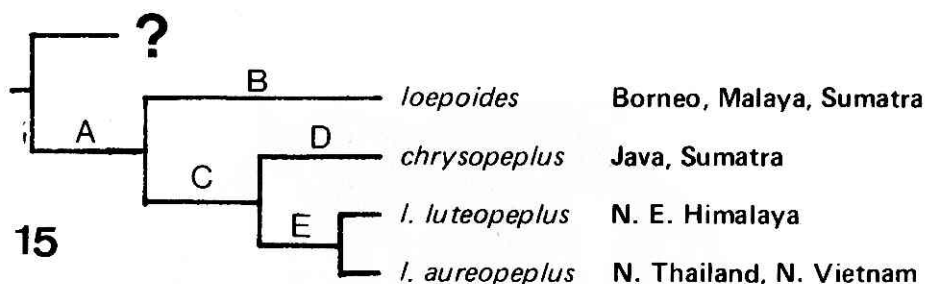


Fig. 15: Schematic diagram of supposed phylogenetic relationships in *Lemaireia*. The following characteristics are supposed to be apomorphies of the phylogenetic units: **A:** As we do not know the sistergroup of the new genus, this set of characteristics cannot be assessed by out-group comparison. Good candidates for synapomorphies of *Lemaireia* might be, for example, in the male genitalia the uncus structure, the valvular processes, the dorsal tongues of the juxta, as well as some external features. **B:** As we cannot decide which of the observed configurations is the apomorphic one, the characteristics "coloration of hindwing ocelli" and "reduction of dorsal part of the valves in the male" (this last sounds apomorphic for *loepoides*!) are so far only of weak incidence. Better candidates are the strong sclerotizations of the dorsal tongues of the juxta and the extreme doming of the uncus in the male genitalia and the female dimorphism in *loepoides*. **C:** Most likely the shape of the valves and the interior processes of them are plausible synapomorphies of the *chrysopeplus*-group. **D:** The elongate shape of the aedeagus seems to be a good autapomorphy of *chrysopeplus* alone. **E:** The numerous interior processes and the elongate, pointed apex of the valves look like good candidates for apomorphies of *luteopeplus*. — The main geographical distribution (as far as known today) of the taxa is given in the right of the diagram.

In Sumatra the two species *L. chrysopeplus* and *L. loepoides* have been found at least once in the same locality (at DIEHL'S "Holzweg 3" between P. Siantar and Prapat in North Sumatra in secondary forest at about 1150 m altitude), but not yet at the same time; so their ecology probably will not be completely different. Both species seem to prefer mountainous areas in Sumatra, as may also *L. luteopeplus* and *L. loepoides* in mainland Asia. But at least *L. loepoides* has been taken both in the lowlands and in montane forest in Borneo (ALLEN 1981, 1600 m) and in Sumatra. So the apparent preference for montane areas might be due to the extinction of the populations in the lowlands due to the conversion of lowland forest to agricultural areas. All species of the genus seem to be quite rare.

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Postscriptum just under the press:

The publication of this paper was outpaced by Jeremy D. HOLLOWAY's book "The Moths of Borneo, part 3, Lasiocampidae, Eupterotidae, Bombycidae, Brahmaeidae, Saturniidae, Sphingidae" (Kuala Lumpur, Southdene Sdn. Bhd., 200 pp. + pls.), which was sent out by December, 1987. HOLLOWAY uses the generic name *Lemaireia* NÄSSIG & HOLLOWAY with a short description, designation of type species, and referring to this publication here, which makes a valid description; therefore the genus *Lemaireia* NÄSSIG & HOLLOWAY takes the year 1987 (*in* HOLLOWAY, *Moths of Borneo* 3) as publication date.

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