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The Scopariinae and Heliothelinae stat. rev. (Lepidoptera: Pyraloidea, Crambidae) of the Oriental Region — a revisional synopsis with descriptions of new species from the Philippines and Sumatra

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Abstract: A synopsis of all described Scopariinae and Heliothelinae species of the Oriental Region is presented. A total of 11 genera and 63 species are listed. The paper comprises a complete reference, type deposition, distribution remarks, and the systematic placement of each species. Diagnosises for the higher taxa and phylogenetic remarks are given. Six species are described as new: *Scoparia* ***meyi*** sp. n., *Scoparia* ***monticola*** sp. n., *Scoparia* ***spadix*** sp. n., *Dasyscopa* ***axeli*** sp. n., *Hoploscopa* ***luteomacula*** sp. n., and *Micraglossa* ***tagalica*** sp. n.; newly combined with *Scoparia* is *Scoparia distictalis* (Hampson, 1908) **comb. n.** [*Micraglossa*]; 2 oriental and 9 Australian species are transferred from *Scoparia* to *Eudonia: E. medinella* (Snellen, 1890) **comb. n.**, *E. notozeucta* (Meyrick, 1938) **comb. n.**, *E. anthracias* (Meyrick, 1885) **comb. n.**, *E. aphrodes* (Meyrick, 1885) **comb. n.**, *E. epicryma* (Meyrick, 1885) **comb. n.**, *E. eremitis* (Meyrick, 1885) **comb. n.**, *E. homala* (Meyrick, 1885) **comb. n.**, *E. perierga* (Meyrick, 1885) **comb. n.**, *E. synapta* (Meyrick, 1885) **comb. n.**, *E. protorthra* (Meyrick, 1885) **comb. n.**, *E. threnodes* (Meyrick, 1887) **comb. n.s**; *Dasyscopa barbipennis* (Hampson, 1897) **comb. n.** [*Scoparia*] is combined with *Dasyscopa;* the tribes Heliothelini and Hoploscopini are combined in Heliothelinae **stat. rev.**, and the Australian genus *Eclipsiodes* Meyrick, 1884 is transferred to this subfamily; *Syncrotaula* Meyrick, 1933 **syn. n.** and the homonym *Eudorina* Snellen, 1895 **syn. n.** are synonymised with *Hoploscopa* Meyrick, 1886; *Argyria xiphotoma* Meyrick, 1938 **syn. n.** is newly synonymised with *Hoploscopa brunnealis* (Snellen, 1895) **comb. n.**; *Hoploscopa anamesa* Tams, 1935 **stat. n.** and *H. nauticorum* Tams, 1935 **stat. n.** are raised from subspecies to species rank; eleven species are transferred from *Eudorina* to *Hoploscopa: H. aurantiacalis* (Snellen, 1895) **comb. n.**, *H. brunnealis* (Snellen, 1895) **comb. n.**, *H. diffusa* (Hampson, 1919) **comb. n.**, *H. obliqua* (Rothschild, 1915) **comb. n.**, *H. ocellata* (Hampson, 1919) **comb. n.**, *H. persimilis* (Rothschild, 1915) **comb. n.**, *H. quadripuncta* (Rothschild, 1915) **comb. n.**, *H. semifascia* (Hampson, 1919) **comb. n.**, *H. subvariegata* (Rothschild, 1915) **comb. n.**, *H. triangulifera* (Hampson, 1919) **comb. n.**, *H. mediobrunnea* (de Joannis, 1929) **comb. n.**, and *H. metacrossa* (Hampson, 1917) **comb. n.** is transferred from *Scoparia* to this genus; two species are transferred from *Eudorina* to *Perimeceta: P. leucoselene* (Hampson, 1919) **comb. n.**, and *P. leucosticta* (Hampson, 1919) **comb. n.**; and *Phanerobela niphospila* Turner, 1932 **syn. n.** is synonymised with *Perimeceta incrustalis* (Snellen, 1895); and four species are newly combined with *Phenacodes: P. epipaschiodes* (Hampson,

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1912) comb. n. [*Lygropia*], *P. nigroalba* (ROTHSCHILD, 1915) comb. n. [*Polyphota*], *P. nolalis* (HAMPSON, 1899) comb. n. [*Pionea*], and *P. scopariodes* (HAMPSON, 1912) comb. n. [*Lygropia*]; three species are transferred from *Scoparia* to *Micraglossa: M. straminealis* (HAMPSON, 1903) comb. n., *M. tricitra* (MEYRICK, 1930) comb. n., and the Australian *M. citrochroa* (TURNER, 1908) comb. n.; *Uthinia albostrigalis* SNELLEN, 1899 syn. n. is synonymised with *Uthinia albisignalis* (HAMPSON, 1896); transferred from the Scopariinae to the Spilomelinae, Pyraustinae or Crambinae, respectively, are *Lamprosema polysemalis* (HAMPSON, 1897) comb. n. [*Dasyscopa*], *Herpetogramma pacificalis* (HAMPSON, 1912) comb. n. [*Erpis*], and *Microchilo syndyas* (MEYRICK, 1938) comb. n. [*Scoparia*]. *Evergestis scopicalis* (HAMPSON, 1908) comb. n. [*Pionea*], with the new synonym *Scoparia xanthomelas* DE JOANNIS, 1929 syn. n., is provisionally combined with *Evergestis* HÜBNER, [1825] 1816. 16 lectotypes are designated.

Die Scopariinae und Heliothelinae stat. rev. (Lepidoptera: Pyraloidea, Crambidae) der Orientalischen Region — ein revidierender Überblick mit Beschreibung neuer Arten von den Philippinen und Sumatra

Zusammenfassung: Es wird eine Zusammenfassung aller beschriebenen Scopariinae- und Heliothelinae-Arten der Orientalischen Region präsentiert. 11 Gattungen und 63 Arten werden aufgelistet. Der Artikel umfaßt eine komplette Wiedergabe aller Literaturhinweise, der Typenaufbewahrung, Verbreitungsangaben sowie die systematische Einordnung einer jeden Art. Diagnosen für alle höheren Taxa und phylogenetische Anmerkungen werden gegeben. Sechs Arten werden neu beschrieben: *Scoparia* ***meyi*** sp. n., *Scoparia* ***monticola*** sp. n., *Scoparia* ***spadix*** sp. n., *Dasyscopa* ***axeli*** sp. n., *Hoploscopa* ***luteomacula*** sp. n. und *Micraglossa* ***tagalica*** sp. n.; neu kombiniert mit *Scoparia* wird *Scoparia distictalis* (HAMPSON, 1908) comb. n. [*Micraglossa*]; 2 orientalische und 9 australische Arten werden transferiert von *Scoparia* zu *Eudonia: E. medinella* (SNELLEN, 1890) comb. n., *E. notozeucta* (MEYRICK, 1938) comb. n., *E. anthracias* (MEYRICK, 1885) comb. n., *E. aphrodes* (MEYRICK, 1885) comb. n., *E. epicryma* (MEYRICK, 1885) comb. n., *E. eremitis* (MEYRICK, 1885) comb. n., *E. homala* (MEYRICK, 1885) comb. n., *E. pierierga* (MEYRICK, 1885) comb. n., *E. synapta* (MEYRICK, 1885) comb. n., *E. protorthra* (MEYRICK, 1885) comb. n., *E. threnodes* (MEYRICK, 1887) comb. n.; *Dasyscopa barbipennis* (HAMPSON, 1897) comb. n. [*Scoparia*] wird neu kombiniert mit *Dasyscopa;* die Triben Heliothelini und Hoploscopini werden in der Unterfamilie Heliothelinae stat. rev. vereinigt, und die australische Gattung *Eclipsiodes* MEYRICK, 1884 wird in diese Unterfamilie transferiert; *Syncrotaula* MEYRICK, 1933 syn. n. und das Homonym *Eudorina* SNELLEN, 1895 syn. n. werden synonymisiert mit *Hoploscopa* MEYRICK, 1886; *Argyria xiphotoma* MEYRICK, 1938 syn. n. wird neu synonymisiert mit *Hoploscopa brunnealis* (SNELLEN, 1895) comb. n.; *Hoploscopa anamesa* TAMS, 1935 stat. n. und *H. nauticorum* TAMS, 1935 stat. n. werden vom Unterart- zum Artrang erhoben; 11 Arten werden transferiert von *Eudorina* zu *Hoploscopa: H. aurantiacalis* (SNELLEN, 1895) comb. n., *H. brunnealis* (SNELLEN, 1895) comb. n., *H. diffusa* (HAMPSON, 1919) comb. n., *H. obliqua* (ROTHSCHILD, 1915) comb. n., *H. ocellata* (HAMPSON, 1919) comb. n., *H. persimilis* (ROTHSCHILD, 1915) comb. n., *H. quadripuncta* (ROTHSCHILD, 1915) comb. n., *H. semifascia* (HAMPSON, 1919) comb. n., *H. subvariegata* (ROTHSCHILD, 1915) comb. n., *H. triangulifera* (HAMPSON, 1919) comb. n., *H. mediobrunnea*

(DE JOANNIS, 1929) **comb. n.** und *H. metacrossa* (HAMPSON, 1917) **comb. n.** wird transferiert von *Scoparia* in diese Gattung; zwei Arten werden transferiert von *Eudorina* zu *Perimeceta: P. leucoselene* (HAMPSON, 1919) **comb. n.** und *P. leucosticta* (HAMPSON, 1919) **comb. n.**; *Phanerobela niphospila* TURNER, 1932 **syn. n.** ist neues Synonym von *Perimeceta incrustalis* (SNELLEN, 1895); vier Arten werden neu kombiniert mit *Phenacodes: P. epipaschiodes* (HAMPSON, 1912) **comb. n.** [*Lygropia*], *P. nigroalba* (ROTHSCHILD, 1915) **comb. n.** [*Polyphota*], *P. nolalis* (HAMPSON, 1899) **comb. n.** [*Pionea*] und *P. scopariodes* (HAMPSON, 1912) **comb. n.** [*Lygropia*]; drei Arten werden transferiert von *Scoparia* zu *Micraglossa: M. stramineali*s (HAMPSON, 1903) **comb. n.**, *M. tricitra* (MEYRICK, 1930) **comb. n.** und die australische *M. citrochroa* (TURNER, 1908) **comb. n.**; *Uthinia albostrigalis* SNELLEN, 1899 **syn. n.** wird neu synonymisiert mit *Uthinia albisignalis* (HAMPSON, 1896); transferiert von den Scopariinae zu den Spilomelinae, Pyraustinae beziehungsweise Crambinae werden *Lamprosema polysemalis* (HAMPSON, 1897) **comb. n.** [*Dasyscopa*], *Herpetogramma pacificalis* (HAMPSON, 1912) **comb. n.** [*Erpis*] und *Microchilo syndyas* MEYRICK, 1938 **comb. n.** [*Scoparia*]. *Evergestis scopicalis* (HAMPSON, 1908) **comb. n.** [*Pionea*], mit dem neuen Synonym *Scoparia xanthomelas* DE JOANNIS, 1929 **syn. n.**, ist provisorisch in die Gattung *Evergestis* HÜBNER, [1825] 1816 gestellt. 16 Lectotypen werden festgelegt.

Introduction

The first species of Scopariinae and Heliothelinae from the Oriental Region were described by WALKER (1859 b, 1863, 1865 [5 species]), followed by SNELLEN (1890, 1895 [5 species]) and WARREN (1891 [1 species]). HAMPSON described 30 species, mainly from India, between 1891 and 1919. These represent more than 50 % of the presently known Scopariinae/Heliothelinae species from the Oriental Region. Subsequent descriptions were published by MEYRICK (1886-1938 [5 species]), KLUNDER VAN GIJEN (1913 [1 species]), ROTHSCHILD (1915 [5 species]), WILEMAN & SOUTH (1919 [1 species]) and DE JOANNIS (1930 [1 species]). In 1915, TURNER described the genus *Perimeceta* from Australia whose species are distributed throughout South East Asia and northwestern Australia. Almost no taxonomic work was carried out on the Oriental Scopariinae and Heliothelinae since the 1930ies, except by LERAUT (1986), who described one species from India, and by ROBINSON et al. (1994), who dealt with some representatives of the subfamilies in a field guide.[2] Unfortunately, no figures of the genitalia of these species exist in literature, with the exception of *Heliothela ophideresana* (WALKER, 1863) (by AMSEL 1963).

[2] After submission of the manuscript of the present publication, SASAKI (1998) published about Scopariinae from Taiwan and described 9 new species.

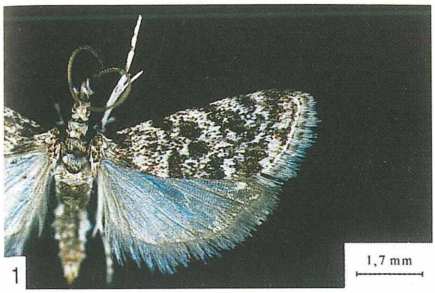
The aim of this work is to give an overview of the Scopariinae and Heliothelinae of the Oriental Region, and to describe a few new species to make the first step in bringing the high diversity under control. A synopsis is presented of all described species, including a nearly complete compilation of references, type depositions, and indications about their systematic placement, as it is understood today.

On family ranks, the most important classifications were published by LERAUT (1980), MINET (1982), and SHAFFER et al. (1996). Unfortunately, the first two authors based their systems mainly on European taxa. Thus, their systems are incomplete and hardly applicable to the world faunas of the Scopariinae and Heliothelinae. ROBINSON et al. (1994) and SHAFFER et al. (1996), on the other hand, did not discuss the arguments on which LERAUT's and MINET's classifications were based. Furthermore, they did not give reasons for the placement of Scopariini, Hoploscopini and Heliothelini together in one subfamily making their system hardly falsifiable. Therefore, some phylogenetic remarks and corrections are included.

Abbreviations used

ANIC	Australian National Insect Collection, Canberra.
BMNH	The Natural History Museum (formerly British Museum (Natural History)), London.
lfw.	length of forewing
MNHN	Muséum national d'Histoire naturelle, Paris.
NNM	Nationaal Natuurhistorisch Museum, Leiden.
MNHB	Museum für Naturkunde der Humboldt-Universität Berlin.
MTD	Staatliches Museum für Tierkunde, Dresden.
ZMUA	Zoologisch Museum, Universiteit van Amsterdam
ZMUC	Zoologisk Museum, Copenhagen.

Figs. 1–8: Imagines. **Fig. 1:** ♂ *Scoparia monticola* sp. n., holotype. **Fig. 2:** ♀ *Scoparia monticola* sp. n., paratype, Philippines, Mindanao. **Fig. 3:** ♂ *Scoparia spadix* sp. n., holotype. **Fig. 4:** ♂ *Scoparia meyi* sp. n., holotype. **Fig. 5:** ♀ *Dasyscopa axeli* sp. n., paratype, Sumatra, Sipirok. **Fig. 6:** ♂ *Hoploscopa metacrossa,* New Guinea, Fak-Fak, 1700 ft. **Fig. 7:** ♀ *Hoploscopa luteomacula* sp. n., paratype, Sumatra, Mt. Singgalang. **Fig. 8:** ♀ *Micraglossa tagalica* sp. n., paratype, Philippines, Mindanao.



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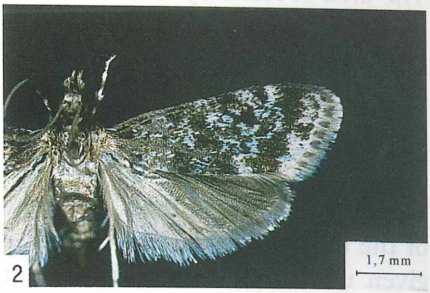

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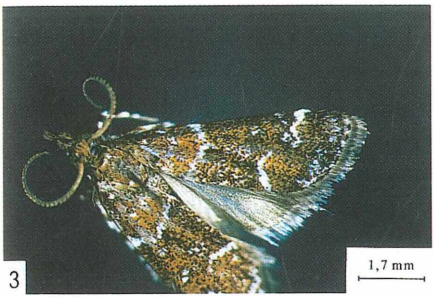

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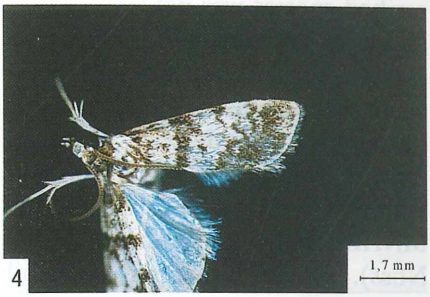

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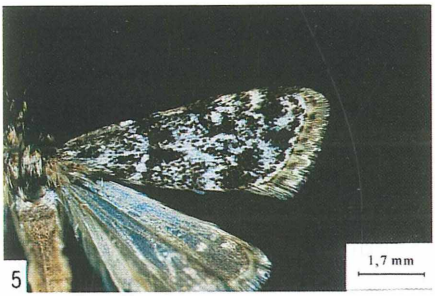

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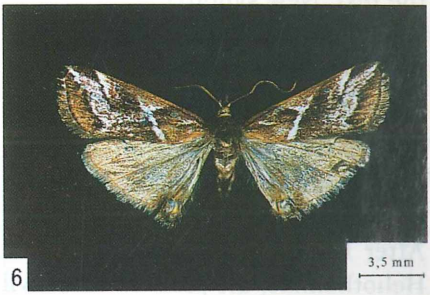

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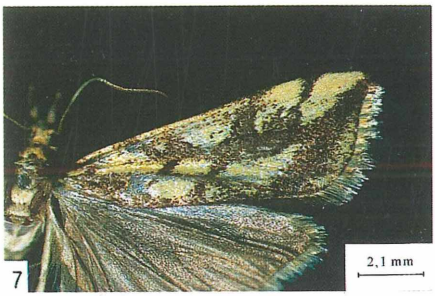

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Material and Methods

The area covered by this study comprises India, Nepal, Bhutan, Bangladesh, Sri Lanka, Burma, Thailand, Laos, Cambodia, Vietnam, Taiwan, the Philippines, Indonesia, Malaysia, and Papua New Guinea. China is treated only partially, because type material from this country was almost unavailable. Some new information on the Scopariinae of China was published by LERAUT (1986), who gave descriptions of new genera and species.

The type material of most species was examined by the author. All labels of the type specimens are cited if investigated. Additional information is given under references, distribution and remarks. It is lacking, if a described species was not referred to in the literature lateron or no further specimens other than the type material became known up to now. Additional information, especially about the distribution, came from the investigation of the collections at the BMNH, NNM and MNHB (additional distribution data derived from the literature are denoted by the cited reference). Many specimens were available for study originating from New Guinea (NNM), from the Philippines (recent expeditions of W. MEY, in MNHB) and from Sumatra (recent expeditions of A. KALLIES, in coll. NUSS). Not much material was available from other sources mentioned in the text. New synonyms are given on the base of the investigation of the genitalia. Distribution data cited are only derived from material examined by the author.

The dissections of the genitalia followed the instructions of ROBINSON (1976). The holotypes of the newly described species are deposited in MNHB (material collected by W. MEY on the Philippines) or preliminarily in the author's collection (material collected by A. KALLIES on Sumatra). After finishing the investigations on South East Asian Scopariinae and Heliothelinae, the primary types will be transferred to public museums.

Results and Discussion

Checklist of the oriental Scopariinae

Scopariinae GUENÉE, 1854 [Scoparidae]

= Eudoraeina SELYS-LONGCHAMPS, 1844
= Eudoroeidae BRUAND, [1851]
= Eudoridi STEPHENS, 1852
= Scopariini AMSEL, 1961

Scoparia HAWORTH, 1811

= *Eudorea* CURTIS, 1827
= *Scopea* HAWORTH, 1828
= *Cholius* GUENÉE, 1845
= *Phegea* GISTEL, 1848
= *Eudoraea* SELYS-LONGCHAMPS, 1844
= *Eudoroea* BRUAND, [1851]
= *Tetraprosopus* BUTLER, 1882
= *Xeroscopa* MEYRICK, 1884
= *Eudoria* CHAPMAN, 1912

Scoparia albifusalis HAMPSON, 1907
Scoparia canicostalis HAMPSON, 1896
Scoparia congestalis WALKER, 1859
Scoparia crocalis HAMPSON, 1903
Scoparia delicatalis WALKER, 1865
Scoparia indica LERAUT, 1986
Scoparia mediorufalis HAMPSON, 1896
Scoparia metaleucalis HAMPSON, 1907
Scoparia ***monticola*** **sp. n.**
Scoparia murificalis WALKER, 1859
Scoparia ochrotalis HAMPSON, 1903
Scoparia olivaris HAMPSON, 1891
Scoparia phaealis HAMPSON, 1903
Scoparia philippinensis (HAMPSON, 1917)
Scoparia polialis HAMPSON, 1903
Scoparia pulveralis SNELLEN, 1890
Scoparia rufostigma HAMPSON, 1891
Scoparia ***spadix*** **sp. n.**
Scoparia termobola MEYRICK, 1938
Scoparia vinotinctalis HAMPSON, 1896
Scoparia distictalis (HAMPSON, 1908) **comb. n.** [*Micraglossa*]
Scoparia ***meyi*** **sp. n.**

Eudonia BILLBERG, 1820

= *Boiea* ZETTERSTEDT, [1839]
= *Borea* STEPHENS, 1852
= *Epileucia* STEPHENS, 1852

Eudonia medinella (SNELLEN, 1890) **comb. n.** [*Scoparia*]

Eudonia notozeucta (MEYRICK, 1938) **comb. n.** [*Scoparia*]
Eudonia promiscua (WILEMAN & SOUTH, 1919)

Dasyscopa MEYRICK, 1894

Dasyscopa homogenes MEYRICK, 1894
= *Scoparia planilinealis* WARREN, 1896
Dasyscopa barbipennis (HAMPSON, 1897) **comb. n.** [*Scoparia*]
Dasyscopa axeli **sp. n.**

Heliothelinae AMSEL, 1961

Heliothelini AMSEL, 1961

Heliothela GUENÉE, 1854

= *Orosana* WALKER, 1863
= *Nyctarcha* MEYRICK, 1884
Heliothela ophideresana (WALKER, 1863) [*Orosana*]
= *Nyctarcha ophideres*, misspelling
= *Heliothela pusilla* BUTLER, 1889
= *Heliothela kruegeri* TURATI, 1926

Hoploscopini ROBINSON, TUCK & SHAFFER, 1994

Hoploscopa MEYRICK, 1886

= *Eudorina* SNELLEN, 1895 **syn. n.**
= *Syncrotaula* MEYRICK, 1933 **syn. n.**
= *Haploscopa* HAMPSON, 1897, misspelling.
Hoploscopa astrapias MEYRICK, 1886
Hoploscopa anamesa TAMS, 1935 **stat. n.**
Hoploscopa nauticorum TAMS, 1935 **stat. n.**
Hoploscopa aurantiacalis (SNELLEN, 1895) **comb. n.** [*Eudorina*]
Hoploscopa brunnealis (SNELLEN, 1895) **comb. n.** [*Eudorina*]
= *Argyria xiphotoma* MEYRICK, 1938 **syn. n.**
Hoploscopa diffusa (HAMPSON, 1919) **comb. n.** [*Eudorina*]
Hoploscopa metacrossa (HAMPSON, 1917) **comb. n.** [*Scoparia*]
Hoploscopa obliqua (ROTHSCHILD, 1915) **comb. n.** [*Eudorina*]
Hoploscopa ocellata (HAMPSON, 1919) **comb. n.** [*Eudorina*]
Hoploscopa persimilis (ROTHSCHILD, 1915) **comb. n.** [*Eudorina*]
Hoploscopa quadripuncta (ROTHSCHILD, 1915) **comb. n.** [*Eudorina*]
Hoploscopa semifascia (HAMPSON, 1919) **comb. n.** [*Eudorina*]

Hoploscopa subvariegata (ROTHSCHILD, 1915) **comb. n.** [*Eudorina*]
Hoploscopa triangulifera (HAMPSON, 1919) **comb. n.** [*Eudorina*]
Hoploscopa luteomacula **sp. n.**
Hoploscopa mediobrunnea (DE JOANNIS, 1929) **comb. n.** [*Eudorina*]

Perimeceta **TURNER, 1915**
= *Phanerobela* TURNER, 1932
Perimeceta incrustalis (SNELLEN, 1895) [*Eudorina*]
= *Phanerobela niphospila* TURNER, 1932 **syn. n.**
Perimeceta leucoselene (HAMPSON, 1919) **comb. n.** [*Eudorina*]
Perimeceta leucosticta (HAMPSON, 1919) **comb. n.** [*Eudorina*]

Genera et species incertae sedis

Erpis **WALKER, 1863**
Erpis macularis WALKER, 1863

Phenacodes **TURNER, 1937**
Phenacodes epipaschiodes (HAMPSON, 1912) **comb. n.** [*Lygropia*]
Phenacodes nigroalba (ROTHSCHILD, 1915) **comb. n.** [*Polyphota*]
Phenacodes nolalis (HAMPSON, 1899) **comb. n.** [*Pionea*]
Phenacodes scopariodes (HAMPSON, 1912) **comb. n.** [*Lygropia*]

Micraglossa **WARREN, 1891**
= *Microglossa*, misspelling
Micraglossa scoparialis WARREN, 1891
Micraglossa convatalalis KLUNDER VAN GIJEN, 1913
Micraglossa cupritincta (HAMPSON, 1917) [*Microglossa*]
Micraglossa flavidalis (HAMPSON, 1907) [*Microglossa*]
Micraglossa oenealis HAMPSON, 1897
= *Micraglossa aenealis*, misspelling
Micraglossa stramineralis (HAMPSON, 1903) **comb. n.** [*Scoparia*]
Micraglossa tricitra (MEYRICK, 1930) **comb. n.** [*Scoparia*]
Micraglossa tagalica **sp. n.**

Uthinia **SNELLEN, 1899**
Uthinia albisignalis (HAMPSON, 1896) [*Orphnophanes*]
= *Uthinia albostrigalis* SNELLEN, 1899 **syn. n.**

Systematic Part

Scopariinae Guenée, 1854

Scoparidae Guenée (1854: 412).

= Eudoraeina Selys-Longchamps (1844: 20).
= Eudoroeidae Bruand ([1851]: 26), emend.
= Eudoridi Stephens (1852: 2), emend.
= Scopariini Amsel (1961: 438).

Synapomorphy: In the female genitalia, the corpus bursae has an appendix bursae at the cranial side (Figs. 24, 25, 26).

Remarks: The Scopariinae certainly belong to the Crambidae as indicated by the presence of a praecinctorium in the abdominal tympanal organ, a synapomorphy of the Crambidae. After exclusion of the Hoploscopini, Heliothelini and genera incertae sedis (see below), the subfamily can be regarded as monophyletic, indicated by the presence of an appendix bursae, situated cranially of the corpus bursae. The presence of the appendix bursae was already stated as typical character of the Scopariinae by Chapman (1912), Minet (1982), and Yoshiyasu (1985).

Amsel (1961), when establishing the Heliothelini in comparison with the Scopariini within Pyraustinae, defined the Scopariini by the absence of a distally divided gnathos. However, the scopariine gnathos is in all probability homologous with that of, e.g., Crambinae and Musotiminae, and its presence is therefore a plesiomorphic character state.

At least 27 undescribed species from the Oriental Region are presently known to the author.

Scoparia Haworth, 1811

Scoparia Haworth (1811: 498).

Type-species: *Tinea pyralella* [Denis & Schiffermüller] (1775: 135), by subsequent designation by Curtis (1827: folio 170).

= *Eudorea* Curtis (1827: folio 170).
= *Scopea* Haworth (1828: 590).
= *Cholius* Guenée (1845: 332).
= *Phegea* Gistel (1848: ix).
= *Eudoraea* Selys-Longchamps (1844: 20), emend.
= *Eudoroea* Bruand ([1851]: 26), emend.
= *Tetraprosopus* Butler (1882: 97).
= *Xeroscopa* Meyrick (1884: 349).
= *Eudoria* Chapman (1912: 507).

Diagnosis: The genus is defined by morphological characters of the genitalia: the males have a long and distally pointed uncus, a free distal extension of the sacculus, and cornuti in the aedeagus (Figs. 9-12); corpus bursae of females without signum.

References: HAMPSON (1896: 241, 242; 1897: 223, 224, 229), MEYRICK (1884 a: 343 [key], 346), CHAPMAN (1912: 507), MUNROE (1958: 831, 832, fig. 2, 834, 836), SHAFFER et al. (1996: 186).

Distribution: *Scoparia* occur on all continents, except Antarctica.

Scoparia albifusalis HAMPSON, 1907

Scoparia albifusalis HAMPSON (1907: 24).

Lectotype: ♀ "Lectotype", "Type", "Maskeliya. Ceylon, September", "J. POLE 1903-327", "*Scoparia albifusalis* type ♀ HMPSN.", "Pyralidae Brit. Mus. Slide No. 3783", "Lectotype *Scoparia albifusalis* HAMPSON det. NUSS" **(designated hereby)**, BMNH. – Paralectotypes: 2 ♀♀, same data, BMNH.

References: HAMPSON (1908: 575), KLIMA (1937: 30).

Scoparia canicostalis HAMPSON, 1896

Scoparia canicostalis HAMPSON (1896: 244).

Holotype: ♀ "Holotype", "Type", "Nilgiris. HAMPSON Coll. 89-129. [back] *Scoparia canicostalis* type ♀ HMPSN.", "561.2.", "♀ Pyralidae Brit. Mus. Slide No. 20260", BMNH. – No paratypes.

References: HAMPSON (1897: 237), KLIMA (1937: 31).

Scoparia congestalis WALKER, 1859

Scoparia congestalis WALKER (1859 b: 826).

Holotype: ♀ "Holotype", "Type", "Ceylon [back] 52 62", "34. *Scoparia congestalis*.", "Pyralidae Brit. Mus. Slide No. 3793", BMNH. – No paratypes.

References: HAMPSON (1893: 182, pl. 174, fig. 2; 1897: 237), CARADJA (1925: 336; 1927: 368, 407; 1931: 208; 1939 b: 29 [specimens not examined]), CARADJA & MEYRICK (1934: 156; 1935: 35; 1937: 160 [specimens not examined]), KLIMA (1937: 30).

Scoparia crocalis HAMPSON, 1903

Scoparia crocalis HAMPSON (1903: 212).

Holotype: ♀ "Holotype", "Type", "Nilgiris 6700' 8-87 HAMPSON", "MOORE Coll. 94-106.", "*Scoparia crocalis* type ♀ HMPSN.", "Pyralidae Brit. Mus. Slide No. 3789", BMNH. – No paratypes.

References: KLIMA (1937: 31).

Scoparia delicatalis Walker, 1865

Scoparia delicatalis Walker (1865: 1500).

Holotype: ♂ "Holotype", "Type S Ind [back] 61 20", "*Scoparia delicatalis*", "Pyralidae Brit. Mus. Slide No. 3785", BMNH. – No paratypes.

References: Hampson (1896: 243; 1897: 237), Klima (1937: 30).

Scoparia indica Leraut, 1986

Scoparia indica Leraut (1986: 128).

Holotype: ♂, "India, Uttar Pradesh, Mussoorie, C. [Himalaya], 1500–2200 m, 3.–14. viii. 1978, Copenhagen Zool. Mus. Exp.", GU Leraut no. 1436, ZMUC. – No paratypes.

Scoparia mediorufalis Hampson, 1896

Scoparia mediorufalis Hampson (1896: 243).

Lectotype: ♀ "Lectotype", "Type", "Dharmsala [Sikkim] 87-59", "*Scoparia mediorufalis* type ♂ Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3788", "Lectotype *Scoparia mediorufalis* Hampson det. Nuss, 96" **(designated hereby)**, BMNH. – Paralectotypes: 1 ♀ "97-31", "Sikkim 7000' May-1895. J. G. Pilcher" [an abdomen of a ♂ is glued]. 1 ♀ "Sikkim 7000' -1895. J. G. Pilcher", "Sikkim. J. G. Pilcher 96-74." [abdomen missing]. Both paralectotypes with "Paralectotype", "Paralectotype *Scoparia mediorufalis* Hmpsn. det. Nuss", BMNH.

References: Hampson (1896: 243; 1897: 237), Klima (1937: 30), Robinson et al. (1995: 173).

Distribution: Sikkim, Nepal.

Scoparia metaleucalis Hampson, 1907

Scoparia metaleucalis Hampson (1907: 23).

Holotype: ♂. "Holotype", "Type", "Pu-tsu-Fang [W-China], 9820 ft. Native coll. June & July 1890", "Leech Coll. 1900-64.", "*Scoparia metaleucalis* type ♂. Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3775", BMNH. – No paratypes.

References: Caradja (1927: 368, 427 [specimen not examined]), Klima (1937: 30).

Scoparia monticola sp. n.

Holotype (Fig. 1): ♂ "Holotypus", "Philippinen, leg. Mey, Mindanao, 1050 m, Mt. Agtuuganon, 28. v.–7. vi. 1996", "Holotype *Scoparia monticola* det. Nuss 1996", MNHB. – Paratypes: 9 ♂♂, 7 ♀♀, same data as holotype, but "Paratypus", "Paratype *Scoparia monticola* det. Nuss 1996", MNHB. 3 ♂♂ "Paratypus", "Sumatra, Holzweg 25 km SSW Pematangsiantar, Straße nach Prapat, LF 13. ii. 1996, leg. A. Kallies", coll. Nuss.

Distribution: Known from montane localities on Mindanao (Philippines) and Sumatra (Indonesia).

Derivatio nominis: Named according to the montane type localities.

Diagnosis: Male sacculus ventrally enlarged to a bulge from which arise long setae (Fig. 9).

Description (Figs. 1-2): Proboscis, ocelli and chaetosemata present; labial palpi not longer than diameter of eyes, porrect, dark brown, basally white; maxillar palpi triangular, upright, nearly as long as labial palpi; antennae filiform, setose, upperside scaled; dorsal occiputal area covered with tightly fitting, long and grey scales; the male antennae are slightly thicker and less scaled than female antennae; underside of body white; lfw. 5-6 mm; forewings with white and blackish brown scales, females are darker coloured than males; antemedian fascia white, edged with black along the median area; antemedian stigmata orbicular; discocellular stigma X-shaped, almost white filled, connected with costal spot; post-median and subterminal fascia white on brown ground, form like an X, more or less interrupted in the centre; termen white; fringe whitish grey with a brown spotted line; hindwings light grey, slightly transparent, dark grey at termen; fringe light grey with a broad dark grey line near base. Male retinaculum with hamus.

♂ genitalia (Figs. 9-10): Uncus long, triangular, distally pointed; gnathos slender, slightly shorter than uncus; tegumen long and narrow, basally there is a separated semicircular sclerotization; valvae dorsally sclerotised and convex, insertion with tegumen looped, valvae ventrally with free distal extension of sacculus; sacculus: ventral bulge enlarged and with long setae; aedeagus with one thorn-like cornutus. 8th sternite caudally one third longer than 8th tergit.

♀ genitalia (Fig. 24): Corpus bursae ovoid, with two signa composed of well sclerotised, triangular points, the second signum is situated at a developed cervix bursae; corpus bursae as long as ductus bursae and antrum; ductus bursae straight, without loops and folds; ductus bursae with colliculum, together with antrum funnel-shaped.

Remarks: The two signa of the corpus bursae of *S. monticola* are in contrast with the definition of the genus *Scoparia*. Since the male genitalia show all typical characters of *Scoparia* (long and pointed uncus, long and slender gnathos, well developed sacculus with a free distal extension, cornutus in the aedeagus), the species is placed in this genus. However, even the male genitalia show some peculiarities like the bulge of the ventral margin of the sacculus from which long setae arise, the semicircular sclerotization basad of the tegumen, and the looped insertion of valvae and vinculum.

Scoparia murificalis Walker, 1859

Scoparia murificalis Walker (1859 b: 826).

Holotype: ♀ "Holotype", "Type", "Ceylon [back:] 52 62", "33. *Scoparia murificalis*", "Abdomen missing", BMNH. – No paratypes.

References: Hampson (1893: 182, pl. 174, fig.10; 1896: 244, fig. 147; 1897: 229 fig., 237), Caradja (1925: 336; 1927: 368; 1938 a: 248; 1938 b: 252 [specimens not examined]), Klima (1937: 30, 32).

Remarks: Klima (1937) recorded *S. murificalis* also from the Afrotropical region. I believe that this is a misidentification.

Scoparia ochrotalis Hampson, 1903

Scoparia ochrotalis Hampson (1903: 213).

Holotype: ♂ "Holotype", "Type", "Nilgiris, Hampson Coll. 89-129", "34.A", "*Scoparia ochrotalis* type ♂ Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3797", BMNH. – An additional specimen with the same locality label, but not originally included in the type series, in BMNH.

References: Klima (1937: 31).

Scoparia olivaris Hampson, 1891

Scoparia olivaris Hampson (1891: 131, pl. 154, fig. 11).

Holotype: ♀ "Holotype", "Type", "Nilgiris, Hampson Coll. 89-129.0, "*Scoparia olivaris* Hampson type ♂", "Pyralidae Brit. Mus. Slide No. 3784", BMNH. – No paratypes.

References: Hampson (1896: 243; 1897: 237), Klima (1937: 30).

Scoparia phaealis Hampson, 1903

Scoparia phaealis Hampson (1903: 213).

Holotype: ♀ "Holotype", "Type", "Bombay", "Moore Coll. 94-106.", "*Scoparia phaealis* type ♀ Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3786", "Lectotype *Scoparia phaealis* Hampson det. Nuss" **(designated hereby)**, BMNH. – Paratypes: 1 ♂, 1 ♀ same data; 1 ♀ "Belgaum. Watson Coll. 97-193. July [18]96", 1 ♀ same data, but "Aug. [18]96", BMNH.

References: Klima (1937: 30).

Scoparia philippinensis (Hampson, 1917)

Microglossa [sic] *philippinensis* Hampson (1917: 279).

Lectotype: ♂ "Lectotype", "Type H.T.", "Negros I.; 6000 ft. Philippines 1896; Whitehead", "1909-42.", "*Microglossa philippinensis* type ♂ Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3590", "Lectotype *Micraglossa philippinensis* Hampson, 1917

det. M. Nuss", BMNH. – 5 Paralectotypes: same data (1 of them is not conspecific with the lectotype), BMNH.

References: Klima (1937: 8), Sasaki (1998: 191, 193, fig. 22, 24 [lectotype designation and transfer to *Scoparia*]).

Scoparia polialis Hampson, 1903

Scoparia polialis Hampson (1903: 213).

Holotype: ♀ "Holotype", "Type", "Cherrapunji vii. [18]94 Assam", "98-152.", "*Scoparia polialis* type ♀ Hmpsn", "Pyralidae Brit. Mus. Slide No. 3782", BMNH. – No paratypes.

References: Klima (1937: 30).

Scoparia pulveralis Snellen, 1890

Scoparia pulveralis Snellen (1890: 570, pl. 19, fig. 5).

Lectotype: ♀ "Lectotype", "Darjeeling. July, 1886. H. J. Elwes", "34", "509", "Collectio H. J. Elwes", "*Scoparia pulveralis* Snell.", "Rothschild Bequest B.M. 1939-1", "Lectotype *Scoparia pulveralis* Snellen, 1890, design. by Munroe, Diakonoff & Martin 1958, det. Nuss, 1996", "♀ Pyralidae Brit. Mus. Slide No. 20271", BMNH. – Paralectotypes: 2 ♀♀ "Sikkim, Interior. Möller.", "Collectio H. J. Elwes", "Rothschild Bequest B.M.1939-1." "Paralectotype *Scoparia pulveralis* Snellen det. Nuss, 1996", BMNH. 1 ♂ "Paralectotypus", "Syntype", "Sikkim. Interior. Möller.", "Museum Leiden *Scoparia pulveralis* Det. Snell", "Paralectotype *Scoparia pulveralis* Snellen det. Nuss, 1996", NNM. 1 ♂ "Paralectotypus", "Syntype", "24.5. Tonglo, Sikkim, 10,000 feet. July, 1886. H. J. Elwes", "GU 759 prep. Nuss 1997", "Museum Leiden *Scoparia pulveralis* Det. Snell", "Paralectotype *Scoparia pulveralis* Snellen, det. Nuss 1996, not conspecific with the lectotype", NNM (not conspecific with the lectotype, see below).

References: Hampson (1896: 242; 1897: 237), Klima (1937: 30), Munroe et al. (1958: 82).

Distribution: Sikkim, Darjiling.

Remarks: The syntype series was composed of two different species. Four paralectotypes are conspecific with the lectotype, designated by Munroe et al. (1958). Unfortunately, the fifth specimen (from Tonglo) is not conspecific with the lectotype but fits very well the figure of the species in the original description (Snellen 1890: pl. 19, fig. 5). The sixth syntype is missing.

Scoparia rufostigma Hampson, 1891

Scoparia rufostigma Hampson (1891: 131, pl. 154, fig. 4).

Holotype: ♀ "Holotype", "Type", "Nilgiris. Hampson Coll. 89-129.", "*Scoparia rufostigma* Hampson, type ♂", "363 A", "Pyralidae Brit. Mus. Slide No. 3787",

BMNH. – An additional specimen, originally not included in the type series, with the same locality label in BMNH.

References: HAMPSON (1896: 243; 1897: 237), KLIMA (1937: 30).

Scoparia spadix sp. n.

Holotype: ♂ "Holotypus", "Philippinen, leg. MEY, Mindanao, 1050 m, Mt. Agtuuganon, 28. v.-7. VI. 1996", "Holotype *Scoparia spadix* det. NUSS, 1996", MNHB. – Paratypes: 2 ♂♂ "Paratypus", sama data as holotype, "Paratype *Scoparia spadix* det. NUSS, 1996", "GU 753 prep. NUSS, 1997", MNHB.

Distribution: Known only from the Mt. Agtuuganon, Mindanao, Philippines.

Derivatio nominis: Named according the reddish-brown (= SPADIX, Latin) colour of the forewings.

Diagnosis (Fig. 3): Forewings reddish brown in colour, with white fasciae.

Description (Fig. 3): Proboscis, ocelli, and chaetosemata present; labial palpi long, porrect, ventral side with long scales; maxillary palpi triangular, upright; antennae filiform, upperside scaled, underside setose; upperside of body and forewings including palpi with black and ochreous scales, appearing reddish brown; underside of head and body white; legs black and white striped; lfw. 5-6 mm; forewings reddish brown through a mixture of ochreous and brown scales; an interrupted white line in the basal area; antemedian fascia white, obtuse; no antemedian stigmata; discocellular stigma 8-shaped, filled with white; postmedian fascia wavy at costa, beyond discocellular stigma obtuse into median area; subterminal fascia inconspicuously white; termen white with black dots; first half of fringes black grey, outer half light grey; hindwings light grey, darker at termen, fringes as in forewings.

♂ genitalia (Figs. 11-12): Uncus broadly triangular, short; gnathos long, slender; valvae ventrally concave with a well developed free distal extension of sacculus, distally round, dorsally convex, basal half of dorsal margin sclerotised; juxta ovate; vinculum thin, U-shaped, saccus drop-like enlarged; aedeagus with a small group of three cornuti.

♀: Unknown.

Scoparia termobola MEYRICK, 1938

Scoparia termobola MEYRICK (1938: 83).

Lectotype: ♀ "Lectotype", "Type", "Mt. Guntur, Garoet Westjava, 1350 m. OVERBECK leg.", "*Scoparia termobola* MEYR. det. E. MEYRICK", "*Scoparia termobola* MEYR. 2/2 E. MEYRICK det. in MEYRICK Coll.", "MEYRICK Coll. B.M. 1938-290.",

"M561", "Pyralidae Brit. Mus. Slide No. 3841", "Lectotype *Scoparia termobola* MEYRICK det. NUSS", BMNH. – Paralectotype: ♂, same data, BMNH. 4 further paralectotypes are missing.

References: MUNROE (1960: 896, lectotype designation [the specimen was not labelled accordingly]).

Scoparia vinotinctalis HAMPSON, 1896

Scoparia vinotinctalis HAMPSON (1896: 244).

Holotype: ♂ "Holotype", "Type", "Nilgiris. HAMPSON Coll. 89-129. [back] *Scoparia vinotinctalis* type ♂ HMPSN.", "30 A", "Pyralidae Brit. Mus. Slide No. 3795", BMNH. – No paratypes.

References: HAMPSON (1896: 244; 1897: 237), CARADJA (1925: 336 [specimen not examined]), KLIMA (1937: 31).

The *distictalis* species-group

Distribution: The species-group is known from Sri Lanka, Sumatra, and the Philippines.

This species-group appears to be a monophyletic subunit within the genus *Scoparia*. Other such supposedly monophyletic subunits of *Scoparia* are not reliably defined presently.

Diagnosis (Figs. 13, 14, 15, 16, 25): Cranial stripe of tergites IV-VII with many spines directed inwardly; uncus reduced; vesica spinous; an extensive field of spines directed inwardly in corpus bursae; ductus bursae coiled around caudal part of corpus bursae; antrum enlarged, funnel-shaped.

Description (Fig. 4): typical are the two antemedian stigmata: they are orbicular, not touching the antemedian fascia. The *Scoparia distictalis* species-group contains the smallest Scopariinae of the world with a lfw. of 4–6 mm.

Abdomen (Fig. 16): Cranial stripe of tergites IV-VII with many spines directed inwardly (Fig. 16); praecinctorium of tympanal organ present.

♂ genitalia (Figs. 13–15): The male genitalia are completely turned inside the abdomen, allowed by a lengthened intersegmental membrane VIII-IX; uncus absent or very much reduced; gnathos long, slender; valves with a very large sacculus; free distal extension of sacculus elongated, almost reaching from the middle to the distal end of the valva, jutting out from the scales in undissected specimens; juxta long and narrow; large

coremata dorsolaterally of vinculum; aedeagus with large and elongated cornuti, vesica spinous.

♀ genitalia (Fig. 25): Appendix bursae present; corpus bursae ovoid, signum composed of an extensive field of elongated spines directed inwardly, opposite side with reticulate pattern; ductus bursae wound around caudal part of corpus bursae, afterwards flat, enlarged and sclerotised; antrum enlarged, sclerotised, and funnel-shaped; ductus seminalis arises from the coiled part of ductus bursae; segment IX short, apophyses anteriores as long as apophyses posteriores.

Remarks: Beside *C. meyi* sp. n. and *C. distictalis* comb. n., there are three further, undescribed species from Sumatra. Unfortunately, these are only represented by one sex only or worn specimens only.

Scoparia distictalis (Hampson, 1908) comb. n.

Micraglossa distictalis Hampson (1908: 575).

Holotype: ♀ "Holotype", "Type", "Maskeliya Ceylon March 1907.II 2 Alston.", "*Micraglossa distictalis*. type ♀. Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3588", BMNH. – No paratypes.

References: Klima (1937: 8).

Distribution: Sri Lanka.

Remarks: ♂: Unknown. ♀ genitalia: Similar to *C. meyi*, but diameter of ductus bursae like the diameter of the middle of the antrum.

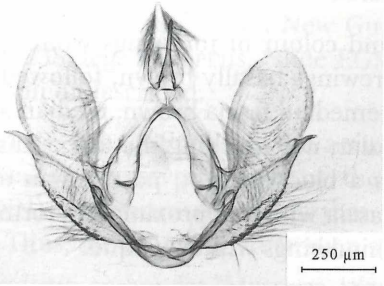
Scoparia meyi sp. n.

Holotype (Fig. 4): ♂ "Holotypus", "Philippinen, leg. Mey, Mindanao, 1050 m, Mt. Agtuuganon, 28. v.-7. vi. 1996", "GU 750 prep. Nuss 1996", "Holotype *Scoparia meyi* det. Nuss, 1996", MNHB. – Paratypes: 4 ♂♂, 1 ♀, same data as holotype; 1 ♂ "Philippinen, Negros, Patag NR, 20.-25. v. 1996, 750 m, leg. W. Mey". All paratypes "Paratypus", "Paratype *Scoparia meyi* det. Nuss, 1996", MNHB.

Distribution: Philippines: Mindanao, Negros.

Derivatio nominis: Named in honour of the collector of the species, W. Mey.

Figs. 9–16: ♂ genitalia and other characters. **Fig. 9:** *Scoparia monticola* sp. n., GU 754 prep. Nuss, paratype, Philippines, Mindanao. **Fig. 10:** Aedeagus of GU 754 prep. Nuss. **Fig. 11:** *Scoparia spadix* sp. n., GU 753 prep. Nuss, paratype, Philippines, Mindanao. **Fig. 12:** Aedeagus of GU 753 prep. Nuss. **Fig. 13:** *Scoparia meyi* sp. n., GU 750 prep. Nuss, holotype. **Fig. 14:** Aedeagus of GU 750 prep. Nuss. **Fig. 15:** Uncus of GU 750 prep. Nuss. **Fig. 16:** Tergit IV–VII of GU 750 prep. Nuss (character also present in ♀).



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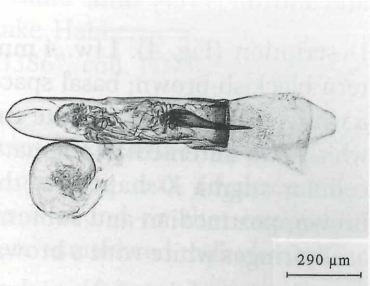

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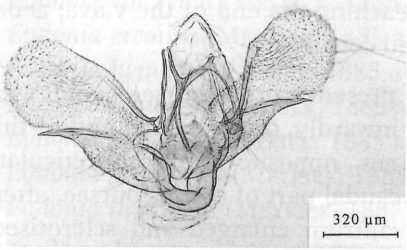

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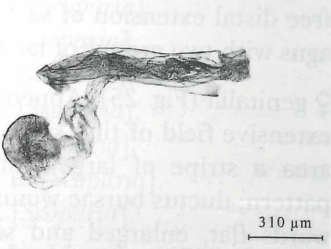

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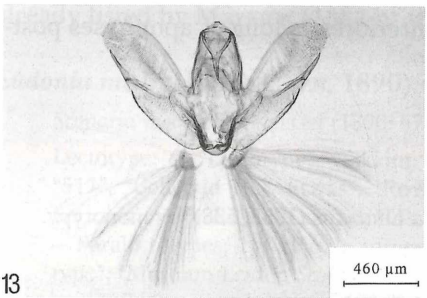

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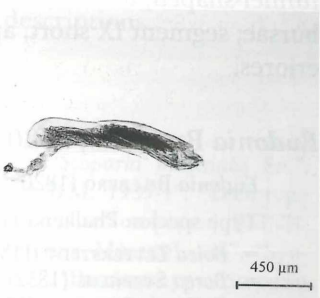

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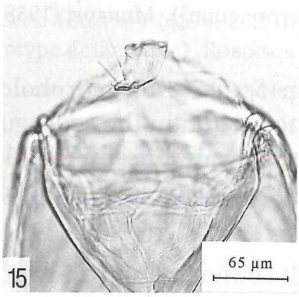

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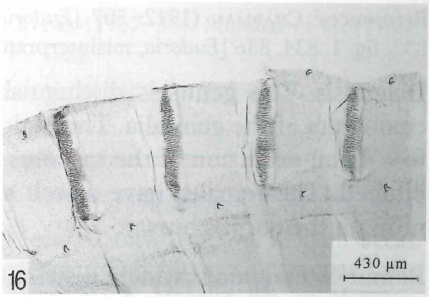


16

Diagnosis (Fig. 25): In the female genitalia the junction of ductus bursae and antrum is very thin.

Description (Fig. 4): Lfw. 4 mm; ground colour of forewings white, pattern blackish-brown; basal space of forewings basally brown, followed by a white, a brown and a white strip; antemedian fascia brown; median area white, two antemedian stigmata orbicular, not touching the fascia, discocellular stigma X-shaped, at the costa a blackish spot; postmedian area brown, postmedian and subterminal fascia white, approximately forming an X; fringes white with a brown line; hindwings white, opaque.

♂ genitalia (Figs. 13-15): Uncus rudimentary; gnathos large, distal part long and flatened, ending with a tiny hook, gnathos arms inside toothed; free distal extension of sacculus not reaching the end of the valva; aedeagus with two groups of large, elongated cornuti.

♀ genitalia (Fig. 25): Appendix bursae present; corpus bursae ovoid, with extensive field of tiny spines directed inwardly, at the caudal end of this area a stripe of large elongated spines, opposite site with reticulate pattern; ductus bursae wound around caudal part of corpus bursae, afterwards flat, enlarged and sclerotised; antrum enlarged and sclerotised, funnel-shaped; ductus seminalis arises from the coiled part of the ductus bursae; segment IX short, apophyses anteriores as long as apophyses posteriores.

Eudonia Billberg, 1820

Eudonia Billberg (1820: 93).

Type species: Phalaena *Tinea mercurella* Linnaeus (1758: 538), by monotypy.

= *Boiea* Zetterstedt ([1839]: 995)
= *Borea* Stephens (1852: 2), emend.
= *Epileucia* Stephens (1852: 5)

References: Chapman (1912: 507 [*Eudoria,* misinterpretation]), Munroe (1958: 831, 832, fig. 1, 834, 836 [*Eudoria,* misinterpretation]).

Diagnosis: The genus is distinguished from *Scoparia* by morphological characters of the genitalia. The males have no cornuti in the aedeagus, no free distal extension of the sacculus, and the uncus is dorsally rounded or bilobed. The females have a well sclerotised, more or less rounded signum on the corpus bursae.

Remarks: *Eudonia* is widely distributed on all continents and an abundant element on most oceanic islands. It is remarkable that it is very rare in

the Oriental Region. MUNROE (1958) stated that the genus "is apparently absent in the Papuan Region" Lateron he came across a narrow-winged species of this genus from New Guinea, Lake Habbema at 3300 m, VII.–VIII. 1938, leg. TOXOPEUS, "slide EGM No. 3386", coll. NNM, which is today still undescribed.

SHAFFER et al. (1996) listed not a single species of *Eudonia* from Australia. However, the investigation of the types of some taxa (deposited in BMNH) demonstrated clearly that *Eudonia* is found on that continent, too. Thus, the following Australian species are transferred to *Eudonia:*

- *Eudonia anthracias* (MEYRICK, 1885 a) **comb. n.** [*Scoparia*],
- *Eudonia aphrodes* (MEYRICK, 1885 a) **comb. n.** [*Scoparia*],
- *Eudonia epicryma* (MEYRICK, 1885 a) **comb. n.** [*Scoparia*],
- *Eudonia eremitis* (MEYRICK, 1885 a) **comb. n.** [*Scoparia*],
- *Eudonia homala* (MEYRICK, 1885 a) **comb. n.** [*Scoparia*],
- *Eudonia pierga* (MEYRICK, 1885 a) **comb. n.** [*Scoparia*],
- *Eudonia synapta* (MEYRICK, 1885 a) **comb. n.** [*Scoparia*],
- *Eudonia protorthra* (MEYRICK, 1885 b) **comb. n.** [*Scoparia*],
- *Eudonia threnodes* (MEYRICK, 1887) **comb. n.** [*Scoparia*].

Note: The above mentioned species described by MEYRICK (1885 a) were already listed by MEYRICK (1884 b) without any descriptions.

Eudonia medinella (SNELLEN, 1890) comb. n.

Scoparia medinella SNELLEN (1890: 571).

Lectotype: ♀ "Lectotype", "Sikkim, MÖLLER, 1888", "*Scoparia medinalis* SN.", "511", "Collectio H. J. ELWES", "ROTHSCHILD Bequest B.M. 1939-1", "Lectotype *Scoparia medinella* SNELLEN det. NUSS, 1996" [abdomen glued on paper], BMNH. – Paralectotypes: 1 ♂ "Paralectotypus", "Sikkim, Interior. MÖLLER", "35", "Syntype", "Museum Leiden *Scoparia medinella* Det. SNELL", "Paralectotypus *Scoparia medinella* SNELLEN det. NUSS, 1996", NNM. 1 paralectotype missing.

References: HAMPSON (1896: 242; 1897: 237), KLIMA (1937: 30), MUNROE et al. (1958: 79, lectotype designation), ROBINSON et al. (1995: 173).

Distribution: Sikkim, Darjeeling; Nepal (ROBINSON et al. 1995).

Eudonia notozeucta (MEYRICK, 1938) comb. n.

Scoparia notozeucta MEYRICK (1938: 83).

Lectotype: ♂ "Lectotype", "Type", "Mt. Guntur, Garoet, Westjava, 1350 m, OVERBECK leg.", "M566", "*Scoparia notozeucta* MEYR. det. E. MEYRICK", "MEYRICK Coll. B.M. 1938-290.", "*Scoparia notozeucta* MEYR. 1/1 E. MEYRICK det. in MEYRICK

Coll.", "Pyralidae Brit. Mus. Slide No. 3842", "Lectotype *Scoparia notozeucta* MEYRICK det. NUSS", BMNH. – One paralectotype missing.

References: MUNROE (1960: 895, lectotype designation), ROBINSON et al. (1994: 170, pl. 28, fig. 20 [*Scoparia*]).

Eudonia promiscua (WILEMAN & SOUTH, 1919)

Scoparia promiscua WILEMAN & SOUTH (1919: 268).

Holotype: ♂ "Holotype", "Type", "♀ Arizan, Formosa. 7,300 ft., 22. IX. 1906,. A. E. WILEMAN", "WILEMAN Coll. B.M. 1929-261.", "1124a", "*Scoparia promiscua* sp. n. Type ♀", "Pyralidae Brit. Mus. Slide No. 3773", BMNH. – No paratypes.

References: KLIMA (1937: 30), HEPPNER & INOUE (1992: 79), SASAKI (1998: 193, fig. 23, 25 [transfer to *Eudonia*]).

Remarks: *Eudonia promiscua* shows similarities to the Palaearctic *Eudonia truncicolella* (STAINTON, 1849). However, only the worn holotype specimen was available for investigation of this species. Thus it could not be determined whether both are conspecific.

Dasyscopa MEYRICK, 1894

Dasyscopa MEYRICK (1894: 464).

Type-species: *Dasyscopa homogenes* MEYRICK, 1894, by monotypy.

References: HAMPSON (1896: 241, 245; 1897: 223, 224, 239), MUNROE (1958: 831, 832, fig. 4).

Distribution: Assam, Taiwan, Thailand, West Malaysia, Sumatra, Borneo (Sabah, Brunei), Java, Bali, Sumbawa, Philippines.

Diagnosis: An androconial organ on the underside of the hindwings and on the hindlegs of the males is present.

Remarks: According to the characters of the female genitalia, *Dasyscopa* is closely related to *Eudonia*. The males have a rectangular uncus, and some species, e.g. *Dasyscopa homogenes*, have coremata dorsolaterally of the vinculum.

Dasyscopa homogenes MEYRICK, 1894

Dasyscopa homogenes MEYRICK (1894: 464).

Holotype: ♂ "Holotype", "Type", "Sambawa. DOHERTY. Sept. '91", "96-43.", "*Dasyscopa homogenes* MEYR.", "Pyralidae Brit. Mus. Slide No. 3801", BMNH. – No paratypes.

= *Scoparia planilinealis* WARREN (1896: 207).
Holotype: ♀ "Holotype", "Type", "Khasis Sept. 1894 Nat. Coll", "*Scoparia planilinealis* Type ♀ WARR.", "*Dasyscopa homogenes* MEYR.", "Pyralidae Brit. Mus. Slide No. 3802", BMNH. – No paratypes.

References: HAMPSON (1896: 245, fig. 148; 1897: 239 fig.), MUNROE (1960: 894), SASAKI (1998: 200, fig. 16, 17, 19, 21, 27, 28).

Distribution: Assam (Khasia Hills), Sumatra, Java, Bali, Malaysia, Philippines (Mindoro), Taiwan.

Dasyscopa barbipennis (HAMPSON, 1897) comb. n.

Scoparia barbipennis HAMPSON (1897: 238).

Lectotype: ♂ "Lectotype", "Type", "Gunong Ijau, Mal. Pen.", "*Scoparia barbipennis* type ♂ HMPSN.", "Pyralidae Brit. Mus. Slide No. 3617", "Lectotype *S. barbipennis* HAMPSON, 1897 det. M. NUSS" (**designated hereby**), BMNH. – Paralectotypes: 2 ♂♂, same data, BMNH.

References: KLIMA (1937: 31).

Distribution: Peninsular Malaysia, Sumatra, Borneo (Sabah), Java.

Dasyscopa axeli sp. n.

Holotype: ♂ "Holotypus", "N-Sumatra Sipirok, 1450 m, 27.-28. I. 1995, leg. A. KALLIES", "Holotype *Dasyscopa axeli* det. Nuss, 1996", coll. Nuss, later to be transferred to a public museum. – Paratypes: 1 ♂, 2 ♀♀, same data as holotype; 1 ♂ "Sumatra Barat, Padangpanjang, 13.-15. I. 1995, 800 m, leg. KALLIES", coll. Nuss; 1 ♀ "Sumatra, Holzweg 25 km SSW Pematangsiantar, Straße nach Prapat, LF 13. II. 1996, leg. A. KALLIES", coll. Nuss; 1 ♂, W. Malaysia, Pahang, Cameron Highlands, W Brinchang, 4.-17. X. 1991, 1700 m, leg. M. & E. ARENBERGER, coll. ARENBERGER (all paratypes with a red label "Paratypus" and a white label "Paratype *Dasyscopa axeli* det. Nuss, 1996").

Distribution: Known from montane rain forests in the provinces Sumatera Utara and Sumatera Barat (Indonesia: Sumatra), and from the Cameron Highlands of Peninsular Malaysia.

Derivatio nominis: Named in honour of my friend Axel KALLIES, who collected the species on Sumatra.

Diagnosis: Uncus distally with a bean-shaped sclerotisation.

Description (Fig. 5): Ocelli, proboscis and chaetosemata present; labial palpi long, porrect; maxillary palpi triangulary upright; antennae filiform, upperside scaled, underside setose; lfw. 6-7 mm; forewings white scaled, suffused by black; basal area with a black spot in the middle; antemedian fascia white, convex around the basal area; antemedian stigmata black and claviform; discocellular stigma black, X-shaped and white filled, a black spot at costa; postmedian and subterminal fascia contrastful white on a black ground, forming an X; termen with a white line, interrupted by black dots; fringes whitish grey, basally with black dots; hindwings white, grey towards the termen, fringes as in the forewings. Abdomen: VIIIth seg-

ment forming a compact ring: tergite and sternite reduced to a narrow strip; pleura enlarged and sclerotised, somewhat produced caudally; at the cranial side of segment VIII arise ventrolateral coremata (instead of the coremata dorsolaterally of the vinculum in *D. homogenes*).

♂ genitalia (Figs. 17–18): Uncus rectangular, hairy, distally with a bean shaped sclerotisation; gnathos three-quarters as long as uncus, distally with very tiny spines; transtilla membraneous and spinulose; dorsal margin of valvae sclerotised, at one-quarter from the dorsal base is situated a sella-like humb, ventral margin without any special sclerotisations; vinculum thin, V-shaped, saccus drop-like enlarged; juxta ovate, distally with a long spinulose tube which contains the long and slender aedeagus; aedeagus without cornuti.

♀ genitalia (Fig. 26): Corpus bursae ovoid, area adjacent to signum with reticulate pattern, opposite side with extensive field of inwardly directed tiny spines, signum lance-shaped, about half as long as corpus bursae; appendix bursae globular, with same size of corpus bursae; ductus bursae thin and long, without loops and folds, beyond ductus seminalis with a long colliculum; antrum small, apophyses conspicuous long. The female genitalia show all typical characters of the genus *Eudonia*.

Heliothelinae Amsel, 1961 stat. rev.

Heliothelini Amsel (1961: 438).

Distribution: Species of this subfamily are known only from the continents of the Old World.

Synapomorphy: In female genitalia, the corpus bursae has an conspicuous, inwardly directed spine. The synapomorphy of the Scopariinae, the presence of an appendix bursae, is lacking.

Remarks: The type genus *Heliothela* was established in the Hercynidae, now Odontiinae; it was placed in the Pyraustinae by Hampson (1899 a: 603), later in the Heliothelini as a separate tribe of the Pyraustinae by Amsel (1961: 438, see under Scopariinae). *Heliothela* was transferred to the Scopariinae by Leraut (1980: 105); it was retained in that subfamily by Fletcher & Nye (1984: 67), and with its own tribe by Shaffer et al. (1996: 187), without indication of a synapomorphy. Before, the Heliothelini were already raised to subfamiliar rank by Minet (1982: 268).

The Heliothelinae consist of two tribes, the Heliothelini and the Hoploscopini. A pecten on the hindwing cubital stem is present in both tribes.

LANDRY (1995) stated the pecten to be an autapomorphy of the Crambinae. However, this character is also found in, e.g., Phycitinae (Pyraloidea, Pyralidae). Therefore, the pecten could also be regarded as an ancestral character present in the groundplan of the Pyraloidea. In addition, a pecten also occurs in primitive Olethreutinae (Tortricoidea) (NUSS & MEY, unpubl.).

Besides the genera listed here under Heliothelinae, the Australian genus *Eclipsiodes* MEYRICK, 1884 (type species: *Eclipsiodes crysixantha* MEYRICK, 1884, by monotypy) shares the synapomorphy of the group and is herewith transferred to this subfamily. Due to the presence of yellow hindwings with a black marginal band, this genus most likely belongs to the Heliothelini.

Heliothelini AMSEL, 1961

Heliothelini AMSEL (1961: 438).

Diagnosis: Hindwings yellow with black marginal band.

Biology: Moths flies at day and inhabit dry to desert-like biotopes.

Remarks: The species of Heliothelini differ from the Hoploscopini by their noctuoid appearence and by their diurnal flight activity.

Heliothela GUENÉE, 1854

Heliothela GUENÉE (1854: 152).

Type-species: *Phalaena atralis* HÜBNER ([1788] 1786-89: 16, pl. 2 fig. K), by monotypy.

= *Orosana* WALKER (1863 b: 458).
Type-species: *Orosana ophideresana* WALKER, 1863, by subsequent designation by DIAKONOFF (1954: 285).

= *Nyctarcha* MEYRICK (1884 a: 344).
Type-species: *Orosana ophideresana* WALKER, 1863, by subsequent designation by MEYRICK (1913: 41) [*Orosana ophideres*].

References: MOORE ([1885]: 268), SHAFFER et al. (1996: 187).

Diagnosis: In male genitalia, the gnathos is composed of two distal branches, and dorso-basally the valvae possess a conspicuous, toothed sclerotisation.

Heliothela ophideresana (WALKER, 1863)

Orosana ophideresana WALKER (1863 b: 459).

Lectotype: ♂ "Lectotype", "Type", "58-124 Australia", "1. *Orosana ophideresana*", "Abdomen missing", "Lectotype *Orosana ophideresana* det. M. Nuss" (**designated hereby**), BMNH. – No paralectotype.

= *Nyctarcha ophideres*, misspelling: MEYRICK (1884 a: 344, 345; 1913: 41).

= *Heliothela pusilla* BUTLER (1889: 93, pl. 134, fig. 15).
Lectotype: ♀ "Lectotype", "Type", "Dharmsala 87-59. (745) Day-flier [back] *Heliothela pusilla* type BUTLER", "Pyralidae Brit. Mus. Slide No. 3893", "Lectotype *Heliothela pusilla* BTL. det. NUSS" (**designated hereby**), BMNH. – No paralectotype.

= *Heliothela kruegeri* TURATI (1926: 65, fig. 26).
Holotype: ♂ "Holotype", "Cyrenaica R. U. Agrario 1673 Geo. C. KRÜGER 1. IV. [19]25", "*Heliothela kruegeri* Typ. TRTI.", "♂ Pyralidae Brit. Mus. Slide No. 20266", "Holotype *Heliothela kruegeri* TURATI det. NUSS", BMNH. – No paratype.

References: MEYRICK (1884 a: 344 [key], 345 [*Nyctarcha ophideres*]), MOORE ([1885]: 269), HAMPSON (1896: 446; 1899 b: 280, fig. 155), CARADJA (1937: 169; 1939 a: 24), AMSEL (1958: 74; 1961: 437, fig. 136; 1963: 5, pl. 2 fig. 5-6; 1968: 14; 1970: 59), BRADLEY & SHAFFER (1969: 429), SHAFFER et al. (1996: 187).

Distribution: Tunisia, Libya, Ethiopia, S-Africa, Madagascar, NE-Saudi Arabia, Oman, Iran, Afghanistan, Pakistan, India, Sri Lanka, New Guinea, Australia (Queensland).

Hoploscopini ROBINSON, TUCK & SHAFFER, 1994

Hoploscopini ROBINSON, TUCK & SHAFFER (1994: 170).

Distribution: The tribe occurs mainly in the Oriental Region. Representatives of *Perimeceta* are known from rain forests of NE-Australia (see SHAFFER et al. 1996).

Diagnosis: Forewings "reddish-brown, variously marked with ellipses, diagonal stripes or silvery-white spots. Hindwings . grey to reddish-brown" (ROBINSON et al. 1994). A corema originates laterally on each side of the vinculum (♂ genitalia). The coremata are membraneous at their base, becoming a sclerotised shell in which elongated scales originate like a brush. It is unclear whether those coremata are homologous in Crambinae (compare LANDRY 1995) and in *Dasyscopa* (see above).

Remarks: The Hoploscopini contain two genera, *Hoploscopa* and *Perimeceta*. The monophyly of this tribe is not supported yet.

Hoploscopa MEYRICK, 1886

Hoploscopa MEYRICK (1886: 267).

Type-species: *Hoploscopa astrapias* MEYRICK, 1886, by monotypy.

= *Eudorina* SNELLEN (1895: 116), **syn. n.**; homonym of *Eudorina* EHRENBERG, 1832 (Protozoa).

= *Syncrotaula* MEYRICK (1933: 378), **syn. n.**
Type-species: *Eudorina aurantiacalis* SNELLEN, 1895, by subsequent designation by DE JOANNIS (1930: 599). *Syncrotaula* was established as an objective re-

placement name for *Eudorina* SNELLEN; it is treated here as a subjective junior synonym of *Hoploscopa*.

= *Haploscopa* HAMPSON (1897: 223), misspelling.

Distribution: *Hoploscopa* is known only from the Oriental Region, except a small group of species including *H. astrapias*, which occurs on the New Hebrides, Fiji, and Samoa. The northernmost localities of specimens of this genus are in Thailand, Loei province, near 18°N (ZMUC).

Diagnosis: Forewings long and narrow, reddish-brown coloured with diagonal stripes of white, reddish and metallic violet colours or light yellow patches. Uncus of male genitalia rectangular; gnathos a ribbon-like band, in some species with a free distal extension in the centre.

Remarks: *Hoploscopa* was established in the Scopariadae, now Scopariinae. Later, it was placed in the Hydrocampinae, now Acentropinae [= Nymphulinae] by HAMPSON (1897: 223) (*Eudorina*), and retained in that subfamily by TAMS (1935: 271). The genus was shifted to the Crambinae by BŁESZYŃSKI & COLLINS (1962: 318), and subsequently transferred by BŁESZYŃSKI (1966: 492) from that subfamily to the Scopariinae. *Hoploscopa* was retained in the Scopariinae on the advice of MUNROE by FLETCHER & NYE (1984: 71).

ROBINSON et al. (1994: 170) reported also grey coloured species of this genus in contrast to the reddish-brown coloured species. However, the examination of the genitalia of those grey specimens (one of them figured by ROBINSON et al. 1994: pl. 28, fig. 19) from Sabah, Mt. Kinabalu (BMNH), showed that they belong to the genus *Microchilo* OKANO, 1962 (Crambinae).

There are more than 70 undescribed species (ROBINSON et al. 1994).

Hoploscopa astrapias MEYRICK, 1886

Hoploscopa astrapias MEYRICK (1886: 268).

Lectotype: ♀ "Lectotype", "Vunidawa Fiji HP. 2.1.32 [sic]", "*Hoploscopa* MEYR.", "*astrapias* MEYR.", "MEYRICK Coll. B.M. 1938-290.", "*Hoploscopa astrapias* 1/1 MEYRICK E. MEYRICK det. in MEYRICK Coll.", "♀ Pyralidae Brit. Mus. Slide No. 20241", "GU 654 *Hoploscopa astrapias* Matthias NUSS", "Lectotype *Hoploscopa astrapias* MEYRICK det. M. NUSS" (**designated hereby**), BMNH. – No paralectotypes.

Distribution: Fiji.

References: HAMPSON (1897: 223), MEYRICK (1932: 344), TAMS (1935: 271, pl. 18, fig. 2); REBEL (1915: 136, pl. 1, fig. 12) misidentified the then undescribed *H. nauticorum* (see under that species) under the name "*H. astrapias*"

Hoploscopa anamesa Tams, 1935, stat. n.

Hoploscopa astrapias anamesa (Tams 1935: 271, pl. 18, fig. 3)

Lectotype: ♀ "Lectotype", "Syntype", "New Hebrides: Tanna. IX. 1930. L. E. Cheesman. B.M. 1931-30.", "Lectotype *Hoploscopa astrapias anamesa* Tams det. Nuss" (**designated hereby**), BMNH. – 3 ♂♂, 13 ♀♀ paralectotypes, BMNH.

Distribution: New Hebrides, Fiji.

Remarks: *H. anamesa* is the largest of the three taxa formerly united under *H. astrapias*. It occurs sympatric with *H. astrapias* on Fiji. In the forewings, the subterminal fascia is thin and white instead of broad with a violet shine in *H. astrapias*.

Hoploscopa nauticorum Tams, 1935, stat. n.

Hoploscopa astrapias nauticorum Tams (1935: 271, pl. 6, fig. 21, pl. 18, fig. 4)

Holotype: ♂ "Holotype", "Samoan Is. Malololelei Upolu 24. II. [19]24. P. A. Buxton", "Samoa: Brit. Mus. 1935-315.", "*Hoploscopa astrapias nauticorum* Tams Holotype", "♂", "GU Nr. 655 prep. M. Nuss", "♂ Pyralidae Brit. Mus. Slide No. 20242", BMNH. – Paratypes: 7 ♂♂, 12 ♀♀, BMNH.

Distribution: Samoa.

References: Rebel (1915: 136, pl. 1, fig. 12 [as *H. astrapias*]).

Remarks: *H. nauticorum* differers from *H. astrapias* and *H. anamesa* in a broader antemedian fascia, which is twice interrupted by reddish-brown veins. In male genitalia, the uncus is more pointed and the valvae are distally slightly pointed, the vinculum is broader. The ♂♂ possess a hamus in the retinaculum.

Hoploscopa aurantiacalis (Snellen, 1895) comb. n.

Eudorina aurantiacalis Snellen (1895: 117).

Lectotype: ♀ "Lectotype", "Syntype", "F 1893 Java occ. Pengaleng. 4000' Fr", "99-113", "*Syncrotaula aurantiacalis* Snellen det. M. Shaffer, 1967", "♀ Pyralidae Brit. Mus. Slide No. 20246", "Lectotype *Eudorina aurantiacalis* Snellen det. M. Nuss" (**designated hereby**), "GU Nr. 659 prep. M. Nuss", BMNH. – Paralectotypes: 1 ♂ and 1 ♀ are missing.

References: Hampson (1897: 223), Munroe et al. (1958: 69), Robinson et al. (1994: 170, pl. 28, fig. 18).

Hoploscopa brunnealis (Snellen, 1895) comb. n.

Eudorina brunnealis Snellen (1895: 117 [key], 118).

Lectotype: ♀ "Lectotype", "Syntype", "F 1893 Java occ. Pengaleng 4000' Fr", "99-113.", "*Syncrotaula brunnealis* Snellen det. M. Shaffer, 1967", "♀ Pyralidae Brit.

Mus. Slide No. 20247", "GU Nr. 660 prep. M. Nuss", "Lectotype *Eudorina brunnealis* Snellen det. M. Nuss" (**designated hereby**), BMNH. – Paralectotype: ♂, same data, forewings and antennae missing, BMNH.

= *Argyria xiphotoma* Meyrick (1938: 77), **syn. n.**
Lectotype: ♀ "Lectoytpe", "Syntype", "Mt. Guntur, Garoet, Westjava, 1350 m,. Overbeck leg.", "*Argyria xyphotoma* Meyr. det. E. Meyrick", "M492", "♀ Pyralidae Brit. Mus. Slide No. 20251", "Lectotype *Argyria xyphotoma* Meyrick det. M. Nuss" (**designated hereby**), BMNH. – Paralectotypes: 1 ♂, same data, MTD; 1 ♀, same data, but not conspecific (abdomen and antennae missing), MTD.

References: Hampson (1897: 223), Munroe et al. (1958: 70), Bembenek (1981: 7).

Hoploscopa diffusa (Hampson, 1919) comb. n.

Eudorina diffusa Hampson (1919: 455).

Lectotype: ♂ "Lectotype", "Syntype", "Fergusson I., x., xi. [18]94 (A. S. Meek)", "97-80.", "*Pyrocrambia diffusa* type ♂. Hmpsn.", "Pyralidae Brit. Mus. Slide No. 1014 ♂", "Lectotype *Eudorina diffusa* Hampson det. M. Nuss" (**designated hereby**), BMNH. – Paralectotypes: ♂ "Paralectotype", "Syntype", "Fergusson I., xii. [18]95. A. S. Meek", "Rothschild Bequest B.M. 1939-1.", "*Pyrocrambia diffusa*. Hmpsn.", "Paralectotype *Eudorina diffusa* Hampson det. Nuss" [head and abdomen in a capsule on the pin], BMNH. 14 additional specimens, originally not included in the type series, but with the same locality data in BMNH.

Remarks: "Pyrocrambia" is an unpublished Hampson manuscript name which is taxonomically not available.

Hoploscopa metacrossa (Hampson, 1917) comb. n.

Scoparia metacrossa Hampson (1917: 280).

Holotype: ♂ "Holotype", "Fak-Fak, Dutch New Guinea, Dec. [19]07 1700 ft (Pratt)", "1913-216.", "Pyralidae Brit. Mus. Slide No. 3612", "*Scoparia metacrossa* type ♂. Hmpsn.", BMNH. – No paratype.

Distribution: New Guinea: Fak-Fak (1700 ft. [510 m]), Upper Setekwa River, Snow Mts. (2000–3000 ft. [600–900 m]), Cyclops Mts. (3500 ft. [1050 m]), Kokoda (1200 ft. [360 m]); New Britain; New Hanover.

Remarks: The males (Figs. 6, 23) have an androconial organ on the upper side of the dorsum of the hindwings, formed by a row of upright, elongated scales on vein A1, a similar row at a right angle to the first one, and on the dorsum a spherical, black depression. The antennae of the males are slightly thickened and flat.

Hoploscopa obliqua (Rothschild, 1915) comb. n.

Eudorina obliqua Rothschild (1915: 113).

Holotype: ♂ "Holotype", "Utakwa R., Dutch N. Guin., 3000 ft., Jan. 1913. A. F. R. Wollaston", "437", "*Eudorina obliqua* Type Rothsch.", "♂ Pyralidae Brit. Mus. Slide No. 20252", BMNH. – No paratypes.

Hoploscopa ocellata (Hampson, 1919) comb. n.

Eudorina ocellata Hampson (1919: 456).

Holotype: ♀ "Holotype", "Batchian [Moluccas] Mar. 1892 W. Doherty", "*Pyrocrambia ocellata* type ♀. Hmpsn.", "♀ Pyralidae Brit. Mus. Slide No. 20258", BMNH. – No paratypes.

Hoploscopa persimilis (Rothschild, 1915) comb. n.

Eudorina persimilis Rothschild (1915: 114).

Lectotype: ♂ "Lectotype", "Syntype", "Utakwa R., Dutch N. Guin., 3000 ft., Jan. 1913. A. F. R. Wollaston", "439", "*Eudorina persimilis* Type Rothsch.", "Lectotype *Eudorina persimilis* Rothschild det. Nuss" (**designated hereby**), "♂ Pyralidae Brit. Mus. Slide No. 20255", BMNH. – Paralectotype: ♂ "Paralectotype", same data, "*Eudorina persimlis* Rothschild det. M. Shaffer, 1967", "Paralectotype *Eudorina persimilis* Rothschild det. M. Nuss", BMNH.

Hoploscopa quadripuncta (Rothschild, 1915) comb. n.

Eudorina quadripuncta Rothschild (1915: 113).

Holotype: ♂ "Holotype", "Utakwa R., Dutch N. Guin., 3000 ft., Jan. 1913. A. F. R. Wollaston", "436", "*Eudorina quadripuncta* Type Rothsch.", "♂ Pyralidae Brit. Mus. Slide No. 20257", BMNH. – No paratypes.

Distribution: New Guinea: Cyclops Mts., Hydrographer Mts., Milne Bay, Goodenough Isl.; specimens from New Ireland, Seram, and Sumatra are slightly different.

Hoploscopa semifascia (Hampson, 1919) comb. n.

Eudorina semifascia Hampson (1919: 455).

Holotype: ♀ "Holotype", "Fak-Fak Dutch New Guinea, Dec 1907, 1700 ft (Pratt)", "1913-216.", "*Eudorina semifascia* type ♀ Hmpsn.", "♀ Pyralidae Brit. Mus. Slide No. 20253", BMNH. – No paratypes.

Hoploscopa subvariegata (Rothschild, 1915) comb. n.

Eudorina subvariegata Rothschild (1915: 113).

Holotype: ♀ "Holotype", "Angabunga R., affl. of St. Joseph R., Brit. N. Guinea, 6000 ft. upwards. Nov. [19]04-Febr. 1905. (A. S. Meek)", "*Eudorina subvariegata* Type Rothsch.", "♀ Pyralidae Brit. Mus. Slide No. 20254", BMNH. – Paratype: ♂ "Paratype Carstensz Peak, Utakwa R., 5000-10000 ft., Febr. Mrch. 1913. A. F. R. Wollaston", "438", "Paratype *Eudorina subvariegata* Rothschild det. M. Shaffer, 1967", BMNH.

Hoploscopa triangulifera (HAMPSON, 1919) comb. n.

Eudorina triangulifera HAMPSON (1919: 456).

Holotype: ♀ "Holotype", "Fergusson I., XII. [18]95, (A. S. MEEK)", "97-204", "body re-affixed 6. XII. [19]40 R. S. C.", "*Eudorina triangulifera* type ♂ HMPSN.", "♀ Pyralidae Brit. Mus. Slide No. 20256", BMNH. – Paratype: 1 ♂ "Paratype", "Milne Bay A. S. MEEK", "1900-45.", "Paratype *Eudorina triangulifera* HAMPSON det. M. SHAFFER, 1967", "Abdomen missing", BMNH.

Hoploscopa luteomacula sp. n.

Holotype: ♂ "Holotypus", "Sumatra Barat, N-Padangpanjang, Mt. Singgalang, 2100 m, 10.-11. II. 1996, LF leg. A. KALLIES", "GU 744 prep. NUSS 1996", "Holotype *Hoploscopa luteomacula* det. NUSS 1996"; coll. NUSS, will later be transferred into a public museum. – Paratypes: 1 ♀, same data as holotype, "GU 743 prep. NUSS 1996" 1 ♀ "Sumatra, Holzweg 2, 25 km SSW Pematangsiantar, Straße nach Prapat, 25. X. 1989, leg. E. DIEHL", coll. NUSS. 1 ♀ "NE-Sumatra, Pematangsiantar, 1. III.-2. IV. 1986, Dr. DIEHL leg.", coll. W. SPEIDEL, Bonn. Paratypes with a red label "Paratypus" and a white label "Paratype *Hoploscopa luteomacula* det. NUSS, 1996"

Distribution: Known from submontane rain forests and montane cloud forests of northern and western Sumatra.

Derivatio nominis: Named according to the yellowish (= LUTEOLUS, Latin) spots (= MACULA, Latin) on the forewings. *Hoploscopa luteomacula* is somewhat unusual. It is the only described species of *Hoploscopa* with a yellow wing pattern, but it shows all typical characters of the genus in the genitalia. A few further undescribed species with similar characters from Malaysia are known to me.

Diagnosis (Fig. 7): Forewings brown coloured with large, pale yellow patches.

Description (Fig. 7): Lfw. 9-10 mm (n = 3); labial palpi about twice as long as diameter of compound eye, porrect, second segment ventrally with long scales; maxillary palpi triangular, upright; ocelli reduced; chaetosema present; antennae filiform, upperside scaled, underside setose; upperside of head and thorax light yellow, tegulae and abdomen light brown, underside of body dominantly light yellow; upperside of forewings brown to light ochre with seven large, light yellow coloured patches: three longish patches along cubital stem, in the middle of these three patches to each side a further patch, one round patch at the costa about three quarters from base and one triangular patch at the apex; a light yellow shadow at the termen; fringe whitish yellow; hindwings reddish grey; underside paler with inconspicuous pattern of upperside; male retinaculum with hamus.

♂ genitalia (Figs. 19-20): Uncus broad and longish, hairy; gnathos only half as long as uncus; ventral margin of valvae straight, dorsally sclerotised and conspicuously convex, hairy; juxta elongated, laterally concave, distally with some elongated spines; vinculum broad U-shaped, saccus very small and slightly upright; paired, brush-shaped coremata dorsolaterally of vinculum; aedeagus with elongated, broad and flat cornutus, caudal side of aedeagus hairy, bulbus ejaculatorius conspicuous enlarged.

♀ genitalia (Fig. 27): Corpus bursae globular; cervix bursae reticulately structured and with a conspicuous thorn-like and inwardly directed spine with a small outwardly directed, plump extension; ductus bursae membraneous, without loops and folds, ductus seminalis posteriorly with a small colliculum; apophyses anteriores twice as long as apohyses posteriores; papillae anales narrow, one and a half longer as apohyses posteriores.

Hoploscopa mediobrunnea (DE JOANNIS, 1929) comb. n.

Eudorina mediobrunnea DE JOANNIS (1929: pl. 6 [pl. 4], fig. 15); DE JOANNIS (1930: 599).

Lectotype: ♀ "Lectotypus", "Type", "Than moi [N. Vietnam] 2. VIII.", "*Eudorina mediobrunnea* ♀ type DE JOANN.", "1920-1932 coll. L. & J. DE JOANNIS, Muséum Paris", "*Eudorina mediobrunnea* J. DE JOANNIS, Ann. Soc. ent. Fr. 98, 1929, Suppl. p. 361 (P. VIETTE XI. 1937)", "Lectotype *Eudorina mediobrunnea* DE JOANNIS, 1930 det. NUSS, 1996" (**designated hereby**), MNHN. – 2 paralectotypes, ♀♀, Hoang su phi (missing).

Remarks: Since *Eudorina* SNELLEN is a homonym of *Eudorina* EHRENBERG, 1832 (Protozoa), I place *E. mediobrunnea* here preliminarily in *Hoploscopa*. With the white discocellular stigma and the white fasciata adjacent to the median space, the wing pattern of this species look similar to the musotimine genus *Uthinia*. In contrast to *Uthinia*, *H. mediobrunnea* shows porrect labial palpi, a long ductus bursae, and the ductus seminalis originates near the antrum. The corpus bursae shows three round signa, with inwardly directed tiny spines arising from their edges.

Perimeceta TURNER, 1915

Perimeceta TURNER (1915: 48).

Type-species: *Perimeceta niphotypa* TURNER, 1915, by monotypy.

= *Phanerobela* TURNER (1932: 189).
Type-species: *Phanerobela niphospila* TURNER, 1932, by monotypy (see SHAFFER et al. 1996).

References: Błeszyński (1966: 492), Shaffer et al. (1996: 186).

Distribution: Thailand, Sumatra, Malaysia, Java, Borneo (Brunei, Sabah), Sulawesi, Seram, New Guinea, Bismarck Archipelago; Australia: Queensland, New South Wales.

Diagnosis: Forewings broad; uncus rounded, distally pointed; gnathos as in Scopariini.

Remarks: *Perimeceta* was established in the Pyraustinae. It was retained in that subfamily by Fletcher & Nye (1984: 116). Robinson et al. (1994: 170) transferred it to the Scopariinae, where it is currently retained by Shaffer et al. (1996: 186).

Perimeceta incrustalis (Snellen, 1895)

Eudorina incrustalis Snellen (1895: 117 [key], 119).

Lectotype: ♂ "W. Java 1894", "Museum Leiden *Eudorina incrustalis* Det: Snell.", "E. M. vii. [19]53, Lectotype *Eudorina incrustalis* Snell.", NNM. – Paralectotypes: 3 ♀♀, same data. 1 ♀, "O. Java, Tengger, 2000, vi. 1894" [abdomen missing]. 2 ♀♀, "Celebes Makassar 18-♀-91". 1 ♀, "Celebes, Makassar, ♀, 1888", all paralectotypes "Paralectotypus", "Paralectotypus *Eudorina incrustalis* Snellen det. Nuss, 1996", NNM.

= *Phanerobela niphospila* Turner (1932: 189) **syn. n.**
Holotype: ♀, "Holotype *Phanerobela niphospila* Turner, 1932", "Dunk I., N.Q., 25. v. [19]28" [= Australia, North Queensland, Dunk Island], "*Phanerobela niphospila* Turn. type", "Specimen photogr. for Checklist Aust. Lep., Film 219/35, 36", GU 775 Nuss, ANIC. – No paratype.

References: Hampson (1897: 223), Munroe et al. (1958: 77, lectotype designation), Błeszyński (1966: 492), Robinson et al. (1994: 170, pl. 28, fig. 20), Shaffer et al. (1996: 187).

Distribution: Thailand (Nakhon Nayok province, near 14°N), Java, Sumatra, Malaysia, Borneo (Brunei, Sabah), Sulawesi, Seram, New Guinea, Bismarck Archipelago.

Perimeceta leucoselene (Hampson, 1919) **comb. n.**

Eudorina leucoselene Hampson (1919: 456).

Lectotype: ♂ "Lectotype", "Milne Bay [New Guinea], A. S. Meek", "1900-45.", "*Eudorina leucoselene* type ♂ Hmpsn.", "♂ Pyralidae Brit. Mus. Slide No. 18306", "Lectotype *Eudorina leucoselene* Hampson det. M. Shaffer, 1996" (**designated hereby**), BMNH. – Paralectotype: ♀ "Paralectotype", "1900-45.", "Milne Bay A. S. Meek", "♀ Pyralidae Brit. Mus. Slide No. 18307", "*Eudorina leucoselene* type ♀. Hmpsn.", "Paralectotype *Eudorina leucoselene* Hampson det. M. Shaffer, 1996", BMNH. The third paralectotype, a female from Dutch New Guinea, Mimika River, is missing.

Perimeceta leucosticta (HAMPSON, 1919) comb. n.

Eudorina leucosticta HAMPSON (1919: 533).

Holotype: ♀ "Holotype", "Fergusson I., XII. 95 (A. S. MEEK)", "97-204", "*Eudorina leucosticta* type ♂. HMPSN.", "♀ Pyralidae Brit. Mus. Slide No. 20259", BMNH. – Paratype: ♂ "Paratype", "Humboldt Bay. Sept.-Oct. 1892. W. DOHERTY", "ROTHSCHILD Bequest B.M. 1939-1", "Paratype *Eudorina leucosticta* HAMPSON det. M. SHAFFER, 1967", BMNH.

Genera and species *incertae sedis*

The taxa listed here do not share the presumed synapomorphies of the Scopariinae and Heliothelinae.

Erpis WALKER, 1863

Erpis WALKER (1863 a: 133).

Type-species: *Erpis macularis* WALKER, 1863, by monotypy.

Remarks: *Erpis* was not placed in a specific group when it was described by WALKER (1863 a). HAMPSON (1899 a: 594) placed the genus in the Pyraustinae; it was transferred to the Scopariinae by ROBINSON et al. (1994: 171). There is another species in the genus *Erpis,* described from Japan, Ogasawara (= Bonin) Islands: *Erpis pacificalis* HAMPSON (1912 a: 165). On the advice of M. SHAFFER (pers. com. 1996), *Erpis pacificalis* is here transferred to *Herpetogramma* LEDERER, 1863 [Pyraustinae] (but compare INOUE 1996: 108, fig. 21).

The genitalia of *Erpis macularis* show similarities to those of *Phenacodes* species.

Erpis macularis WALKER, 1863

Erpis macularis WALKER, 1863 a: 133.

Holotype: ♂ "Holotype", "Type", "Sar.", "Sarawak, SAUNDER's Coll. 94-68", "*Erpis macularis*", "Pyralidae Brit. Mus. Slide No. 3697", BMNH. – No paratypes.

References: HAMPSON (1899 a: 614, fig. 13), ROBINSON et al. (1994: 171, pl. 29, fig. 1).

Distribution: Thailand, Vietnam, Sumatra, West Malaysia, Borneo, Java; lowlands to lower montane zone (975 m) (ROBINSON et al. 1994).

Phenacodes TURNER, 1937

Phenacodes TURNER (1937: 87).

Type-species: *Stericta aleuropa* Lower, 1903, by monotypy.

References: MUNROE (1958: 831, 834, fig. 4), SHAFFER et al. (1996: 186).

Distribution: Sumatra, Philippines, Sulawesi, New Guinea; Australia (Queensland), New Hebrides.

Diagnosis: Noctuid-like species, with scopariine wing pattern, the discocellular stigma filled white; the ventral margin of the valvae in male genitalia distally with an extension, but, in contrast to *Scoparia,* a sacculus is not developed; gnathos narrow in the middle, oval shaped distally; aedeagus slender, without cornuti; female genitalia with a large, funnel-shaped antrum and an ovoid corpus bursae, signum round with tiny, inwardly directed spines.

Remarks: The appearance of some *Phenacodes* species is similar to those of Epipaschiinae. Hence, some species of this genus were described in the epipaschiine genera *Stericta* LEDERER, 1863 and *Polylophota* HAMPSON, 1906.

Phenacodes epipaschiodes (HAMPSON, 1912) comb. n.

Lygropia epipaschiodes HAMPSON (1912 b: 559).

Holotype: ♂ "Holotype", "Type", "Kapaur. S.W. N Guinea. Dec. [18]96-Jan. [18]97. DOHERTY 97-165", "*Lygropia epipaschiodes* type ♂ HMPSN.", "♂ Pyralidae Brit. Mus. Slide No. 20270", BMNH. – Paratype: ♀ "Paratype", "Type", "Dinawa, B. New Guinea. 4000 ft., Aug., 1902. Coll. A. E. PRATT", "1906-26", "*Lygropia epipaschiodes* type ♀ HMPSN." [abdomen in a capsule on the pin], BMNH.

Phenacodes nigroalba (ROTHSCHILD, 1915) comb. n.

Polyphota nigroalba ROTHSCHILD (1915: 116).

Holotype: ♂ "Holotype", "Type", "Utakwa R., Dutch N. Guin., 3000 ft., Jan. 1913. A. F. R. WOLLASTON", "449", "*Polyphota nigroalba* Type ROTHSCH.", "♂ Pyralidae Brit. Mus. Slide No. 20269", BMNH. – No paratypes.

Remarks: *Polyphota* is a misspelling of *Polylophota* HAMPSON, 1906 [Epipaschiinae].

Phenacodes nolalis (HAMPSON, 1899) comb. n.

Pionea nolalis HAMPSON (1899 b: 249).

Holotype: ♂ "Holotype", "Type", "S. Celebes. Aug.-Sept. [18]91 W. DOHERTY", "*Pionea nolalis* type ♂ HMPSN.", "ROTHSCHILD Bequest B.M. 1939-1", "Pyralidae Brit. Mus. Slide No. 3982", BMNH. – No paratypes.

Phenacodes scopariodes (HAMPSON, 1912) comb. n.

Lygropia scopariodes HAMPSON (1912 b: 560).

Holotype: ♂ "Holotype", "Type", "Dinawa, B. New Guinea. 4000 ft., Aug. 1902. A. E. PRATT", "1906-26", "*Lygropia scopariodes* type ♂ HMPSN.", "Pyralidae Brit.

Mus. Slide No. 2577 ♂", BMNH. – Paratype: ♂ "Paratype", "Type", "Mount Kebea, B. New Guinea. 6000 ft. July, 1903. A. E. PRATT", "1906-26", "*Lygropia scoparioides* type ♀ HMPSN." [abdomen in a capsule on the pin], BMNH.

Micraglossa WARREN, 1891

Micraglossa WARREN (1891: 65).

Type-species: *Micraglossa scoparialis* WARREN, 1891, by original designation.

= *Microglossa:* misspelling (HAMPSON 1907: 20; 1917: 279, 280).

References: HAMPSON (1896: 241; 1897: 223, 224), KLIMA (1937: 8), MUNROE (1958: 831, 832, fig. 3).

Distribution: Oriental Region, with two species outside: *Micraglossa citrochroa* (TURNER, 1908: 104), **comb. n.** [described in *Myriostephes;* transferred to *Scoparia* by SHAFFER et al. (1996: 186)], from Queensland; and *Micraglossa aureata* INOUE, 1982 (INOUE et al. 1982: vol. **1:** 314, vol. **2:** pl. 36, fig. 56, pl. 300, figs. 12-13, p. 28, 126, 225) from Japan.

Diagnosis: Typical wing pattern of Scopariinae, but forewings with yellow glossy scales; labial palpi upright; appendix bursae absent in the female genitalia; the male genitalia are similar to some Crambinae.

Remarks: More than 35 undescribed species are known to the author. According to MUNROE (1958), *Micraglossa* s. l. might be split into four genera, including *Micraglossa* s. str. One of these genera should be based on *M. stramineal is* (pers. com. MUNROE 1995). However, future investigations have to find evidence for the monophyly of *Micraglossa,* before new genera can be described. In my opinion, *M. stramineal is* does not require a genus of its own. *Micraglossa* shares the following characters with the genus *Gibeauxia* LERAUT, 1988 from French Guayana: Labial palpi upright; forewings with yellow glossy scales; appendix bursae absent; signum of corpus bursae with a small protuberance, from which arise inwardly directed tiny spines.

Micraglossa scoparialis WARREN, 1891

Micraglossa scoparialis WARREN (1891: 66).

Holotype: ♀ "Holotype", "Type", "Darjeeling", "ZELL. Coll. 1884", "Ind. orient. Stt.", "♀ Pyralidae Brit. Mus. Slide No. 3605", "Holotype *Micraglossa scoparialis* WARREN det. M. SHAFFER, 1996", BMNH. – No paratypes.

References: HAMPSON (1896: 242, fig. 146; 1897: 224), CARADJA (1925: 335; 1931: 208; 1938 b: 251 [specimens not examined]), CARADJA & MEYRICK (1934: 156), KLIMA (1937: 8).

Micraglossa convatalalis Klunder van Gijen, 1913

Micraglossa convatalalis Klunder van Gijen (1913: 352).

Locus typicus: Kei-eilanden [Indonesia, Kai Islands in the SW of New Guinea].

Type deposition: unknown.

References: Klima (1937: 8).

Micraglossa cupritincta Hampson, 1917

Microglossa [sic, misspelling] *cupritincta* Hampson (1917: 280).

Holotype: ♂ "Holotype", "Type", "Mt. Goliath. Cent. D. N. Guinea 5[000]-7000 ft. Meek", "*Micraglossa cupritincta* type ♂ Hmpsn.", "1915-113", BMNH [abdomen and left forewing missing]. – No paratypes.

References: Klima (1937: 8).

Remarks: The placement of *M. cupritincta* in *Micraglossa* is uncertain. The worn holotype has no glossy scales, and the abdomen is missing.

Micraglossa flavidalis Hampson, 1907

Microglossa [sic, misspelling] *flavidalis* Hampson (1907: 20).

Holotype: ♂ "Holotype", "Type", "Chang Yang A. E. Pratt Coll. Aug 1888", "*Micraglossa flavidalis* type ♂ Hmpsn.", "Leech Coll. 1900-64", "Pyralidae Brit. Mus. Slide No. 3587" [genitalia in the slide missing], BMNH. – No paratypes.

References: Caradja (1925: 335), Caradja & Meyrick (1935: 35) [specimens not examined], Klima (1937: 8).

Micraglossa oenealis Hampson, 1897

Micraglossa oenealis Hampson (1897: 224).

Holotype: ♂ "Holotype", "Type", "Khasis April, 1894 Nat. Coll.", "*Micraglossa oenealis* type ♂ Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3607", BMNH. – Additional 28 specimens with the same locality label, not originally included in the type series, in BMNH.

= *Micraglossa aenealis*, misspelling (Klima 1937: 8; Sasaki 1998: 200).

References: Hampson (1899 c: 705), de Joannis (1930: 655), Caradja & Meyrick (1935: 35) [specimens not examined], Klima (1937: 8), Sasaki (1998: 200, fig. 14, 20, 26).

*Micraglossa stramineali*s (Hampson, 1903) comb. n.

*Scoparia stramineali*s Hampson (1903: 213).

Holotype: ♂ "Holotype", "Type", "Simla [India] 7000 ft. Jul. [18]97. Pilcher", "99-206", "*Scoparia stramineali*s type ♂ Hmpsn.", "Pyralidae Brit. Mus. Slide No. 3798", BMNH. – An additional specimen with the same locality label, not originally included in the type series, in BMNH.

References: Klima (1937: 31).

Micraglossa tricitra (Meyrick, 1930) comb. n.

Scoparia tricitra Meyrick (1930: 583).

Holotype: ♀ "Holotype", "Type", "Upper Setekwa R., Snow Mts., Dutch N. G., 2[000]-3000 ft., Aug. 1910 (A. S. Meek)", "Paravicini Coll. B.M. 1937-383", "M569", "*Scoparia tricitra* Meyr. det. E. Meyrick", "Pyralidae Brit. Mus. Slide No. 3753", BMNH. – No paratypes.

References: Munroe (1960: 896).

Micraglossa tagalica sp. n.

Holotype: ♂ "Holotypus", "Philippinen, leg. Mey, Mindanao, 1050 m, Mt. Agtuuganon 28. v.-7. vi. 1996", "Holotype *Micraglossa tagalica* det. Nuss 1996", MNHB.

Paratypes: 4 ♂♂, 12 ♀♀, same data as holotype; 6 ♂♂, 2 ♀♀ "Philippinen, Negros, Patag, Lake Danao, 1400 m 21. v. [19]96, leg. W. Mey"; 1 ♀ "Philippinen, Negros, Patag NR, 20.-25. v. 1996, 750 m, leg. W. Mey"; 1 ♀ "Philippinen, Panay, Antique, 9.-10. iv. 1995, San Reminigio, Aningalan, leg. W. Mey". All paratypes with a red label "Paratypus" and a white label "Paratype *Micraglossa tagalica* det. Nuss 1996"; MNHB.

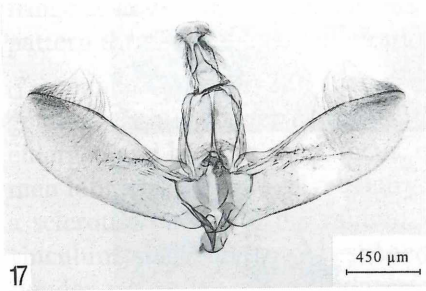
Distribution: Philippines, known from Mindanao, Negros, and Panay.

Derivatio nominis: Named after the official national language of the Philippines: Tagalog.

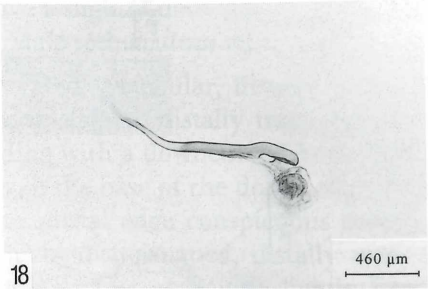
Diagnosis (Fig. 21): Gnathos groove-shaped, distally trapezium like enlarged and broader than uncus, ending with a downcurved hook.

Description (Fig. 8): Labial palpi slender, bent upright, tower above the head; maxillary palpi straight, slender, upright, extending to second joint of labial palpi; proboscis, ocelli and chaetosemata present. Antennae filiform, upper side scaled, under side setose; flagellomeres of females cylindrical, those of the males are thicker, slightly flat and lamellate. Lfw. 5-6.5 mm; ground colour gleaming like brass, pattern black; basal area basally black, then brass-coloured; antemedian fascia straight, black edged adjacent to the median area; one antemedian stigma at costa, a second at two thirds; discocellular stigma 8-shaped, open below and approximal with costal spot; postmedian and subterminal fasciata white, on blackish-brown ground, approximal, forming together an X; first half of fringe

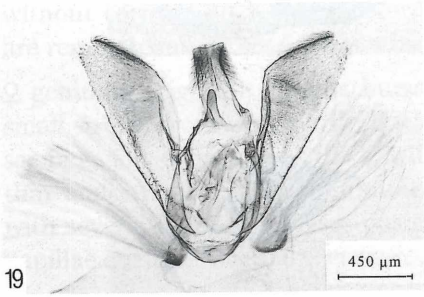
Figs. 17–23: ♂ genitalia and other characters. **Fig. 17:** *Dasyscopa axeli* sp. n., GU 752 prep. Nuss, paratype, Sumatra, Sipirok. **Fig. 18:** Aedeagus of GU 752 prep. Nuss. **Fig. 19:** *Hoploscopa luteomacula* sp. n., GU 744 prep. Nuss, holotype. **Fig. 20:** Aedeagus of GU 744 prep. Nuss. **Fig. 21:** *Micraglossa tagalica* sp. n., GU 748 prep. Nuss, paratype, Philippines, Mindanao. **Fig. 22:** Aedeagus of GU 748 prep. Nuss. **Fig. 23:** *Hoploscopa metacrossa,* androconial organ at dorsum of hindwing (dorsal view), New Guinea, Fak-Fak.



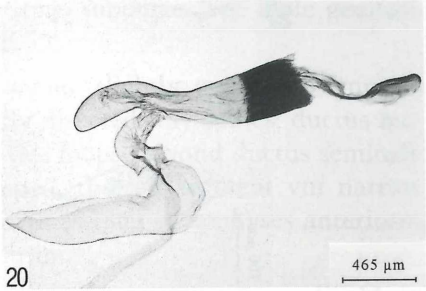
17



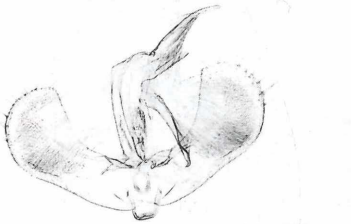
18



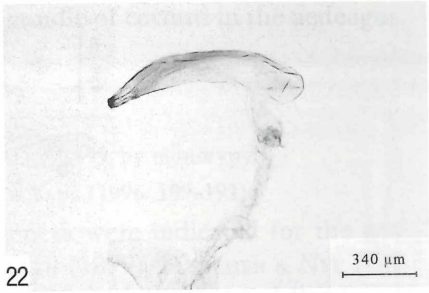
19



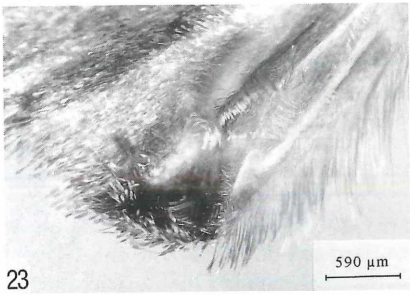
20



21



22



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dark grey, then light grey. Hindwings opaque, grey, darker at termen, fringe as in forewings. The females have a slightly more contrasting wing-pattern through a darker colouration. Male retinaculum with hamus.

♂ genitalia (Figs. 21-22): Uncus elongated, triangular, distally pointed; gnathos slightly longer as uncus, groove-shaped, distally trapezium like enlarged and broader than uncus, ending with a downcurved hook; tegumen long and narrow; valvae hairy, from the base of the dorsal edge runs a sclerotised groin to the middle, dorsodistal edge conspicuous convex; vinculum small, narrow; U-shaped; juxta ovate-shaped, distally with a slender projection and a spinulose membrane; aedeagus slightly bent, without cornuti, bulbus ejaculatorius long, tube-like. The male genitalia are reminescent of those of Crambinae.

♀ genitalia (Fig. 28): Corpus bursae ovoid, slightly wrinkled, signum a small stroke, from which arise inwardly directed tiny spines; ductus bursae beyond corpus bursae thick, with two loops, beyond ductus seminalis thin and straight; antrum funnel-shaped, thorny; segment VIII narrow, with several hairs; apophyses posteriores as long as apohyses anteriores; papillae anales trinagulary, as in Scopariini.

Remarks: *M. tagalica* is in wingpattern very similar to *M. oenealis*. *M. oenealis* is distinguished by a brush-like bundle of cornuti in the aedeagus.

Uthinia SNELLEN, 1899

Uthinia SNELLEN (1899: 179).

Type-species: *Uthinia albostrigalis* SNELLEN, 1899, by monotypy.

References: ROBINSON et al. (1994: 169), YEN & YANG (1996: 189-191).

Remarks: No relationships to other genera were indicated for the genus *Uthinia* when it was described by SNELLEN (1899). FLETCHER & NYE (1984) placed the genus in the Acentropinae (= Nymphulinae), and ROBINSON et al. (1994) in the Musotiminae. YEN & YANG (1996) transferred *Uthinia* to the Scopariinae, partly on the basis of a discussion with the author. However, this placement reflects only a discussion and not yet a full investigation about the position of *Uthinia*.

Figs. 24–28: ♀ genitalia. **Fig. 24:** *Scoparia monticola* sp. n., GU 755 prep. Nuss, paratype, Philippines, Mindanao. **Fig. 25:** *Scoparia meyi* sp. n., GU 746 prep. Nuss, paratype, Philippines, Mindanao. **Fig. 26:** *Dasyscopa axeli* sp. n., GU 751 prep. Nuss, paratype, Sumatra, Sipirok. **Fig. 27:** *Hoploscopa luteomacula* sp. n., GU 743 prep. Nuss, paratype, Sumatra, Mt. Singgalang. **Fig. 28:** *Micraglossa tagalica* sp. n., GU 756 prep. Nuss, paratype, Philippines, Mindanao.

The genitalia of *Uthinia* show close relationships with *Musotima* MEYRICK, 1884: In the females, the corpus bursae is membraneous, ovoid, with a round signum; the ductus bursae is short; the ductus seminalis originates from the corpus bursae, a formation which is unknown in Scopariinae; the males have an elongated, narrow and distally pointed uncus; the gnathos is basally extended and articulates at the tegumen near the costa of the valvae (never observed in Scopariinae), the latter are broad and short; juxta elongated shield-shaped, distally with a downcurved process; saccus enlarged. Contrary to the comments of YEN & YANG (1996), the hindwings of *Uthinia albisignalis* show a slightly concave margin with some inconspicuous lines; such lines, usually very conspicuous, are typical for Musotiminae. Furthermore, YEN & YANG (1996) stated that upturned labial palpi and triangulary maxillary palpi are synapomorphies of the Scopariinae. However, Scopariinae (as defined in the present publication) have porrect labial palpi. Upturned labial palpi as well as triangulary, prominent maxiallary palpi occur also in the outgroup. Thus, these characters are no synapomorphies of the Scopariinae including *Uthinia*. I retain *Uthinia* tentatively in Scopariinae; however, its inclusion neither in the Scopariinae nor in the Musotiminae can presently be supported by any synapomorphies.

Uthinia albisignalis (HAMPSON, 1896)

Orphnophanes albisignalis HAMPSON (1896: 231).

Holotype: ♂ "Holotype", "Type", "Naga Hills, DOHERTY. 5[000]-6000 ft.", "Collectio H. J. ELWES", "*Syntomodora albisignalis* type ♂ HMPSN.", BMNH (abdomen in a capsule on the pin). – No paratypes.

= *Uthinia albostrigalis* SNELLEN (1899: 180, pl. 8, fig. 7-9), **syn. n.**
Lectotype: ♂ "E. M. VII. 53, *Uthinia albostrigalis* SNELL., Lectotype", "W. Java, Preanger, 5000 vt, 1894", "Museum Leiden. *Uthinia albostrigalis* det. SNELL.", NNM. – Paralectotypes: 1 ♂, 4 ♀♀ same data, but "Paralectotypus", "Paralectotypus *Uthinia albostrigalis* SNELLEN det. NUSS, 1996", NNM. 1 paralectotype missing.

References: MUNROE et al. (1958: 68, lectotype designation of *U. albostrigalis*), ROBINSON et al. (1994: 169, pl. 28, fig. 17), ROBINSON et al. (1995: 168), YEN & YANG (1996: 189-191, figs. 1-3).

Distribution: Nepal, Assam, Burma, Thailand, Vietnam, Taiwan; Sumatra, West Malaysia, Borneo (Sabah), Java; Philippines; New Guinea. Throughout the Oriental Region in montaneous areas; some records from lowlands above 400 m (ROBINSON et al. 1994); in Nepal up to an altitude of 3050 m (specimens collected by FIBIGER in ZMUC).

Remarks: ROBINSON et al. (1994) recorded a second *Uthinia* sp. from New Guinea. The above mentioned record of *U. albisignalis* from New Guinea is based on specimens from NNM, and the investigation of the genitalia showed the conspecifity.

Genera and species transferred to other groups

Lamprosema polysemalis (HAMPSON, 1897) comb. n. (to Spilomelinae)

Dasyscopa polysemalis HAMPSON (1897: 239).

Holotype: ♂ "Holotype", "Lifu, Loyalty Is.", "*Dasyscopa polysemalis* type ♂ HMPSN.", "Abdomen missing", BMNH. – No paratypes.

Remarks: After examination of the type specimen of *D. polysemalis*, the species has to be excluded from the Scopariinae. According to Mr. M. SHAFFER (pers. comm. 1994), the species is transferred to *Lamprosema* HÜBNER [Spilomelinae].

Microchilo fulvosignalis (SNELLEN, 1880) (to Crambinae)

Scoparia fulvosignalis SNELLEN, 1880: 204.

Holotype: ♀ "Holotype", "Celebes, Makassar", "slide 6786-SBf *Microchilo fulvosignalis* SN. det. BŁESZYŃSKI, 1969", "Type photographed", "*Scoparia* Holotype *fulvosignalis* SNELL.", "Museum Leiden *Scoparia fulvosignalis* det. SNELL.", NNM.

References: SNELLEN (1883: 124, pl. 6, fig. 10), HAMPSON (1897: 238), KLIMA (1937: 31), MUNROE et al. (1958: 75), BŁESZYŃSKI (1966: 463, 493).

Remarks: Transferred to *Microchilo* OKANO, 1962 [Crambinae] by BŁESZYŃSKI (1966).

Microchilo nugalis (SNELLEN, 1880) (to Crambinae)

Scoparia nugalis SNELLEN (1880: 205).

Lectotype: ♂ "Lectotype", "Lectotype ♂", "Celebes Maros", "slide No 1269 Md'A", "Museum Leiden *Scoparia nugalis* det. SNELL.", "Lectotype *Scoparia nugalis* SNELLEN det. M. SHAFFER, 1979", NNM. – Paralectotypes: 4 specimens, same data.

References: SNELLEN (1883: 125, pl. 6, fig. 11), HAMPSON (1897: 238), KLIMA (1937: 31), MUNROE et al. (1958: 80), BŁESZYŃSKI (1965: 28, 453; 1966: 468, 493).

Remarks: Transferred to *Microchilo* OKANO, 1962 [Crambinae] by BŁESZYŃSKI (1965).

Microchilo syndyas Meyrick, 1938 comb. n. (to Crambinae)

Scoparia syndyas Meyrick (1938: 84).

Holotype: ♀ "Holotype", "Type", "Java HO [?]. [19]36", "*syndyas* Meyr.", "Meyrick Coll. B.M. 1938-290", "*Scoparia syndyas* Meyr. 1/1 E. Meyrick det. in Meyrick Coll.", "♀ Pyralidae Brit. Mus. Slide No. 17032", BMNH. – No paratype.

References: Munroe (1960: 896).

Remarks: After examination of the genitalia of the type specimen the species proved to belong to *Microchilo* Okano, 1962 [Crambinae].

Parbattia vialis Moore, 1888 (to Pyraustinae)

Parbattia vialis Moore, 1888 (225, pl. 7 fig. 30).

Holotype: ♀ "Darjeeling, Coll. Atkinson", "Origin.", "typus", "108: 8", "*Parbattia vialis* Moore", "*vialis* Moore", MNHB.

References: Hampson (1896: 399, fig. 215; 1899 a: 601; 1899 b: 199, fig. 108), Shibuya (1928: 173, 261).

Remarks: The genus *Parbattia* Moore, 1888 with the type species *Parbattia vialis* was described in Scopariidae, now Scopariinae; it was transferred to Pyraustinae by Hampson (1896: 399). This placement was followed by Munroe & Mutuura (1971: 503–506) and Maes (1994: 162).

Hellula undalis (Fabricius, 1781) (to Glaphyriinae)

Phalaena undalis Fabricius (1781: 272).

Type probably missing.

= *Scoparia? alconalis* Walker (1859 b: 827).
Type: not examined.

Remarks: *Scoparia alconalis* Walker was synonymised with *Hellula undalis* (Fabricius, 1781) [Glaphyriinae] by Hampson (1896: 373).

Evergestis scopicalis (Hampson, 1908) comb. n. (to Evergestinae)

Pionea scopicalis Hampson (1908: 584, pl. E, fig. 28).

Holotype ♂: "Holotype", "Type", "Ceylon Uva. 600' XII. Alston. 1905-180.", "*Pionea scopicalis* type ♀. Hmpsn.", "♀ Pyralidae Brit. Mus. Slide No. 13103" (BMNH). No Paratypes.

= *Scoparia xanthomelas* de Joannis (1929: pl. 5 [pl. 3] fig. 13); de Joannis (1930: 655 [description]), syn. n.
Lectotype: ♀ "Lectotypus", "Type", "Phu tho Tonkin", "*Scoparia xanthomelas* n.sp. J. type Joann.", "1920-1932 coll. L.+J. de Joannis Museum Paris", "*Scoparia xanthomelas* Joan. Ann. Soc. entom. Fr., 1929, 98, p. 416 in Suppl. [P.

VIETTE II. 1953]", "Lectotype *Scoparia xanthomelas* JOANNIS, 1929 des. NUSS, 1997" **(hereby designated)**, MNHN.

Paralectotype: ♀ "Paralectotypus", "Cho ganh Tonkin", "1920 Coll. L. & J. DE JOANNIS Museum Paris", "Paralectotype *Scoparia xanthomelas* JOANNIS, 1929 des. NUSS, 1997", MNHN.

References: CARADJA & MEYRICK (1933: 156), KLIMA (1937: 31).

Distribution: Vietnam: Phu Tho (21°23' N 105°13' E), Cho Ganh (near Hanoi 21°01' N 105°52' E), Hoa Binh (20°49' N 105°20' E, 4 ♀♀, coll. DE JOANNIS, MNHN); China: Kwangtung, Drachenkopf (= Guangdong, Lung-tan-shan, 24°54' N 113°33' E, 1 ♂, leg. MELL, coll. CARADJA, MNHB); India: Kanara (= district Dakshin Kannad, 1 ♂, BMNH); Sri Lanka: Uva (7°08' N 81°07' E, BMNH); Malaysia, Sabah: Tuaran (6°12' N 116°12' E, 1 ♀, BMNH).

Remarks: *E. scopicalis* is hereby provisionally combined with *Evergestis* HÜBNER, [1825] 1816, because *Pionea* GUÉNÉE, [1845] 1844 is a junior objective synonym. Both genera have the same type-species, *Pyralis margaritalis* [DENIS & SCHIFFERMÜLLER], 1775. The author is aware of the misplacement of *E. scopicalis* in *Evergestis* due to the absence of the gnathos in this species. There are three subfamilies within Crambidae without a gnathos recognised – the Glaphyriinae, Pyraustinae, and Spilomelinae. The Pyraustinae can be excluded because key characters (e.g., rhomboid signum on the corpus bursae; sella and editum on the valvae) of the subfamily are absent in *E. scopicalis*. MINET (1982) characterised the Glaphyriinae and Spilomelinae by the absence of a subcostal retinaculum and a bilobed praecinctorium, but the subcostal retinaculum is developed in *E. scopicalis* and a bilobed praecinctorium is also observed in other groups. Therefore, the systematic position of *E. scopicalis* remains obscure. Diagnostic for *E. scopicalis* are the bipectinate antennae of the ♂♂, the midventrally slenderly elongated vinculum, and the ductus seminalis which arises from the corpus bursae. The costal margins of the valvae are more strongly sclerotised and a tiny trinagulary dens is present near the base.

Doubtful record

Eudonia trunciolella (STAINTON, 1849: 3) was recorded – with a question mark – from Dharmsala by BUTLER (1889: 20). The species is widely distributed in the Palaearctic region (CARADJA 1925: 80). However, the author has never seen *E. truncicolella* from the Himalaya region. Lateron, KLIMA (1937: 30) treated this record of *E. truncicolella* as a misidentification of *S. murificalis*. KLIMA's conclusion is certainly wrong, since both species are very different in wingpattern, and they are species of different

genera as well. Future collecting will show whether *E. truncicolella* or a species with a similar wingpattern occurs in that area. Compare also *Eudonia promiscua*.

Biogeographical considerations

The subfamily Scopariinae is distributed world-wide. The Heliothelinae: Heliothelini are restricted to the Old World, and the Heliothelinae: Hoploscopiini to the Oriental and Australian Regions. In the Oriental Region, the Scopariinae and Hoploscopini are abundant in montane forests. This holds true also for *Phenacodes* and *Micraglossa,* whereas *Erpis* and *Uthinia* occur in lowlands, too. *Heliothela* is adapted to open and dry land (compare distribution data of *H. ophideresana*), which points to a different ecological adaptation in comparison to Scopariinae and Hoploscopini.

The genera treated in this paper can be separated in three main patterns of distribution:

1. Cosmopolitan and transcontinentally distributed genera

Scoparia and *Eudonia* are known from all inhabitable continents. Obviously, *Scoparia* is well represented in all montaineous areas of the Oriental Region, whereas *Eudonia* seems to be a rare element. *Heliothela* occurs also in the Afrotropics, the Palaearctic, and the Australian Region, but is not known from the New World. Since *Heliothela* is widely distributed in the Old World, it is included in this category.

2. Oriental genera "type I"

Genera of this category are restricted to the Oriental Region, distributed northward to 30°N: *Dasyscopa, Micraglossa* and *Uthinia*. The northern boundary of this group agrees with the range of *Micraglossa*. This genus is an abundant element on the southern slopes of the Himalaya. The northwesternmost known locality is Muree in Pakistan (33°55′ N, 73°26′ E) at an elevation of 1700 m (specimens collected by the late W. Thomas in 1979, via F. Eichler in coll. M. Nuss). *Micraglossa* is known from Nepal and Sikkim. Northernmost records from China are those of *M. scoparialis* from Kwanhsien (= Guan Xian, 31°01′ N, 103°40′ E) (Caradja 1931) and *M. flavidalis* from Changyang (30°32′ N, 111°12′ E) (Hampson 1907). The northeasternmost occurrence is that of *M. aureata* on the Japanese island Yaku-Shima (30°24′ N, 130°14′ E). Species of this genus are distri-

buted in the entire Oriental Region. The southernmost locality in this second category is reached again by a *Micraglossa* species: *M. citrochroa* in Queensland (Australia).

3. Oriental genera "type II"

Genera belonging to this group are restricted to the Oriental Region as well; however, they are not so widly distributed to the north: *Erpis, Hoploscopa, Perimeceta* and *Phenacodes*. Species of *Perimeceta* and *Phenacodes* are distributed also in Queensland. The northernmost occurrence of this group is marked by *Hoploscopa* specimens from the Loei province in Thailand, near 18° N. One remarkable exception is the partly sympatric occurrence of three *Hoploscopa* species on the New Hebrides, Fiji and Samoa.

It can be assumed from the indicated distribution patterns in the north that the distributional boundary follows the 30° northern latitude line, and in the Himalayan Region is leading through the southern slopes of that mountains. This correlates very exactly with the northern border of the Oriental Region as shown by Heppner (1991). However, most oriental genera seem to have a slightly restricted distribution in the north ("oriental genera type II"). It is remarkable that one of these, *Hoploscopa,* has representatives on the Pacific Islands New Hebrides, Fiji and Samoa. Since many oriental scopariine genera occur in Queensland (Australia), this area has a pronouncedly oriental character.

The 63 described species of oriental Scopariinae and Heliothelinae reflect only a part of the diversity of this group in the Oriental Region. I have seen material of more than 27 undescribed species supplementary to the 30 described species of Scopariini. The genus *Micraglossa* contains eight described species – material of more than 35 undescribed species is known. In the tribe Hoploscopini 18 species are described, and Robinson et al. (1994) know more than 70 undescribed morphospecies. Alltogether, more than 132 undescribed species of Scopariinae and Heliothelinae are known. A systematic collecting of Scopariinae and Heliothelinae was never performed in the Oriental Region. Thus, it is difficult to estimate just how many of these species really occur in the Oriental Region.

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