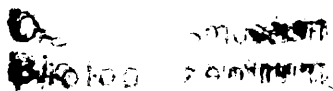


Three new species of Afrotropical Scopariinae (Insecta: Lepidoptera: Pyraloidea: Crambidae) ¹⁾



With 13 figures

MATTHIAS NUSS

Abstract Three species of Scopariinae are described as new from southern Africa: *Scoparia albonigra* sp. n. and *Eudonia malawiensis* sp. n. from Malawi, and *Eudonia gracilineata* sp. n. from South Africa.

Introduction

The subfamily Scopariinae is world wide in distribution, occurring predominantly in montane forests and temperate lowlands on both continents and oceanic islands. This distribution pattern correlates with the habitats of the larvae which feed on mosses, ferns and lycopods and which require a permanently high humidity. Only 8 species of Scopariinae have been described from the entire mainland of the Afrotropical Region and São Tomé, until the 1980s. This low number of nominal species reflects the rarity of scopariine moth specimens in collections. It may also be the result of a collecting bias towards African savannah biotas, whereas Scopariinae occur in the montane moss forests which were difficult to reach in the past. MUNROE (1958) pointed out that species of the genus *Scoparia* HAWORTH, 1811 occur on Mt. Cameroon and probably elsewhere in continental Africa, and also in Madagascar. However, it was not for another three decades that the anticipated scopariine species were described from Madagascar (LERAUT 1989) and from Cameroon (MAES 1996).

At present the diversity level of the Scopariinae in the Afrotropics cannot even be estimated. We are not yet even in a position to decide whether Scopariinae are distributed in all the forests of this region or whether they are represented by endemic taxa in the various mountain regions as is the case with other arthropods (SCHARFF 1992). As a first step towards answering these questions, the present article describes new species from further mountainous areas.

Part of the material examined was collected during an expedition to Malawi with Dr. Wolfram MEY of the Museum für Naturkunde der Humboldt Universität zu Berlin (MNHU) in 1996. A description of the collecting sites can be found in MEY, NUSS & SPEIDEL (1999). The remaining material is in the Transvaal Museum in Pretoria (TMP). Paratypes are in the Staatliches Museum für Tierkunde Dresden (SMTD). A review of different museum collections has revealed a significant number of undescribed species from various mountain ranges in the Afrotropics.

¹⁾ Results of the entomological expeditions of the Museum of Natural History Berlin to Africa. Contribution no. 44.

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Unfortunately, certain species are represented only by single specimens or are in too poor condition for adequate descriptions to be made.

I wish to express my thanks to Wolfram MEY for his excellent organisation of the expedition to Malawi, to Martin KRÜGER (Pretoria, South Africa) for the loan of specimens and to Adrian PONT (Oxford) for comments on the English manuscript. The Stifterverband für die Deutsche Wissenschaft in Essen provided financial support for my fieldwork in Malawi.

***Scoparia albonigra* sp. n.** (Figs. 1, 5, 6, 11)

Material examined – Holotype ♀ “Malawi, Mulanje Mts. | Chambe Hut, 1860 m, LF | *Widdringtonia* forest | 20.x.1996, leg. MEY & Nuß”, “Holotype | *Scoparia albonigra* | Nuss, 2000”, MNHU. Paratypes: 1 ♂, 8 ♀, same data, MNHU, SMTD; 1 ♀: “Malawi, Mulanje Mts. | Lichenya Hut, 1840 m, LF | *Widdringtonia* forest | 21.x.1996, leg. MEY & Nuß”, MNHU (All paratypes with a red label “Paratype | *Scoparia albonigra* | Nuss, 2000”).

Description – Forewing length 8 mm; ocelli and chaetosemata present; labial palpi twice as long as diameter of eyes, porrect, short scaled; maxillary palpi erect. Forewings mainly white in colour; antemedian and postmedian lines black edged against the median space; stigmata black, the stigmata of the antemedian line sometimes weakly, discocellular stigma with a black spot at costa. Male retinaculum with hamus.

Male genitalia. – Uncus triangular, distally pointed; gnathos long and slender; juxta pear-shaped, ventrally with a broadened triangular sclerotisation; vinculum broad; aedeagus with one group of cornuti, arising from a common, thickened base.

Female genitalia. – Corpus bursae ovoid; ductus bursae straight with a short and narrow colliculum; antrum conspicuously sclerotised.

Distribution. – Known from the Mulanje Mountains in southern Malawi.

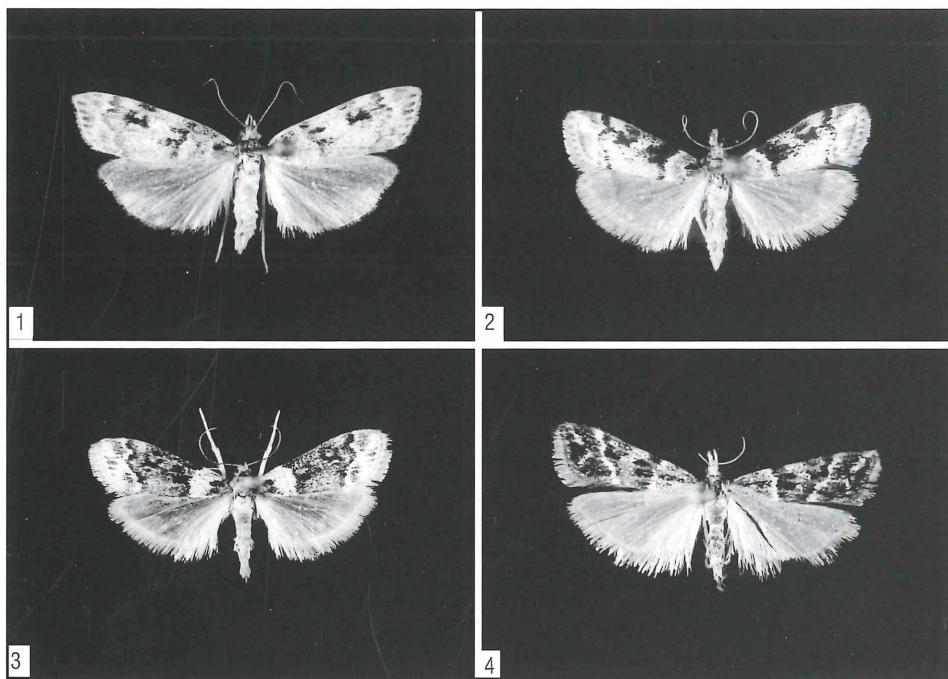
Derivatio nominis – The name refers to the characteristic white colour and the black markings of the forewings.

***Eudonia malawiensis* sp. n.** (Figs. 2, 3, 7, 8, 12)

Material examined. – Holotype ♀ “Malawi, Nyika Plateau | W of Chelinda Camp, LF | rain forest, 2100 m | 14.x.1996, leg. MEY & Nuß”, “Holotype | *Eudonia malawiensis* | Nuss, 2000”, MNHU. Paratypes: 2 ♂♂, 2 ♀♀, same data, MNHU, SMTD; 1 ♂, 1 ♀: “Malawi, Mulanje Mts. | Lichenya Hut, 1840 m, LF | *Widdringtonia* forest | 21.x.1996, leg. MEY & Nuss”, MNHU (♂ without abdomen); 1 ♀ “Malawi, Mulanje Mts. | Chambe Hut, 1860 m, LF | *Widdringtonia* forest | 20.x.1996, leg. MEY & Nuß”, MNHU (All paratypes with a red label “Paratype | *Eudonia malawiensis* | Nuss, 2000”).

Description – Forewing length 7 mm. Chaetosemata and ocelli present; antennae filiform; labial palpi erect, ventrally with long and black scales; maxillary palpi upright. Forewings basally blackish brown, followed by a white band proximal of antemedian line; the latter black edged against the median space and with two black stigmata; discocellular stigma X-shaped, filled with brown; postmedian and subterminal lines forming together an “X”. The colour varies; some specimens with a contrasting black and white pattern, suffused by brown scales in some specimens (one specimen with a darkened brown median space). Male retinaculum without hamus. **Male genitalia.** – Uncus oval, distally conspicuously bilobed, laterally setose; gnathos long and slender; dorsal margin of valvae slightly concave medially.

Female genitalia. – Corpus bursae small, globular and with a large signum; ductus bursae long, with three loops, posterior of ductus seminalis with long and slender colliculum; ovipositor long.



Figs. 1–4: Moths.

1: *Scoparia albonigra* sp. n., holotype. – 2: *Eudonia malawiensis* sp. n., holotype. – 3: *Eudonia malawiensis* sp. n., paratype, variation with brown median space. – 4: *Eudonia gracilineata* sp. n., holotype.

Distribution. – Known from the Nyika Plateau in northern Malawi and the Mulanje Mountains in southeastern Malawi. On the Nyika Plateau, the moths fly inside the gallery forests and rest on mossy tree trunks during the day. In the Mulanje Mountains, they were collected at light at the edge of a *Widdringtonia* forest.

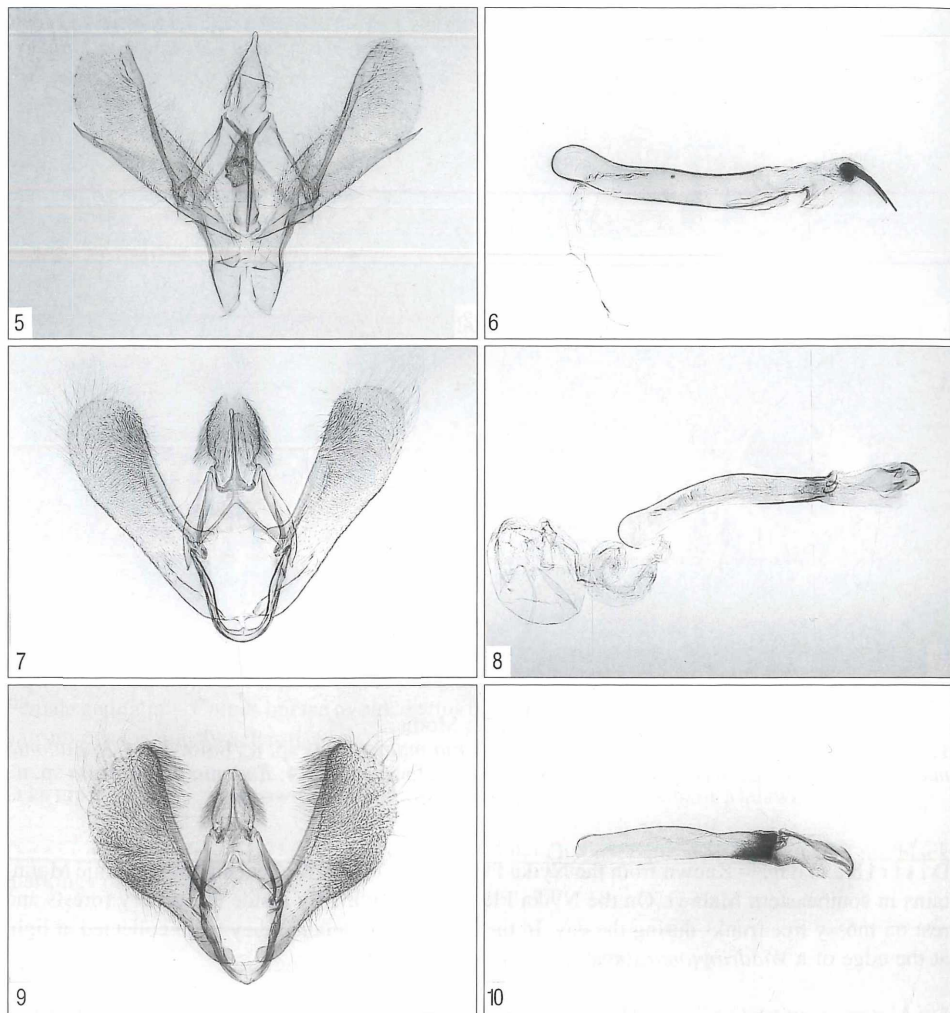
Derivatio nominis. – The name is derived from Malawi, the country of origin of this species.

***Eudonia gracilineata* sp. n.** (Figs. 4, 9, 10, 13)

Material examined. – Holotype ♀ “S. Afr.: Lesotho | New Oxbow Lodge | Tlholohatsi River | *Themeda-Festuca* | alpine veld, 2900 m”, “28°46’S 28°10’E | 14.i.1996 | KRÜGER, DOMBROWSKY | to U.V. light”, “Holotype | *Eudonia gracilineata* | NUSS, 2000”, TMP. Paratypes: 2 ♀♀, same data, SMTD, TMP; 1 ♂, 3 ♀♀: “S. Afr.: Lesotho | Maluti Ski Chalet | *Themeda-Festuca* | alpine veld, 3000 m”, “28°47’S 28°12’E | 15.i.1997 | KRÜGER, DOMBROWSKY | to U.V. light”, TMP (All paratypes with a red label “Paratype | *Eudonia gracilineata* | NUSS, 2000”).

Description. – Forewing length 6–8 mm; labial palps slender, three times as long as diameter of eyes; forewings dark, with contrasting, very fine and white lines; stigmata weak; subterminal line right-angled, sides straight. Male retinaculum without hamus.

Male genitalia. – Uncus triangular, distally tapered and rounded; gnathos slender, as long as uncus, distally pointed; vinculum narrow; distal-ventral margin of valvae conspicuously convex, dorsal margin more strongly sclerotised and slightly concave; aedeagus straight, distally spinulate and with two spherical sclerites; juxta pear-shaped.



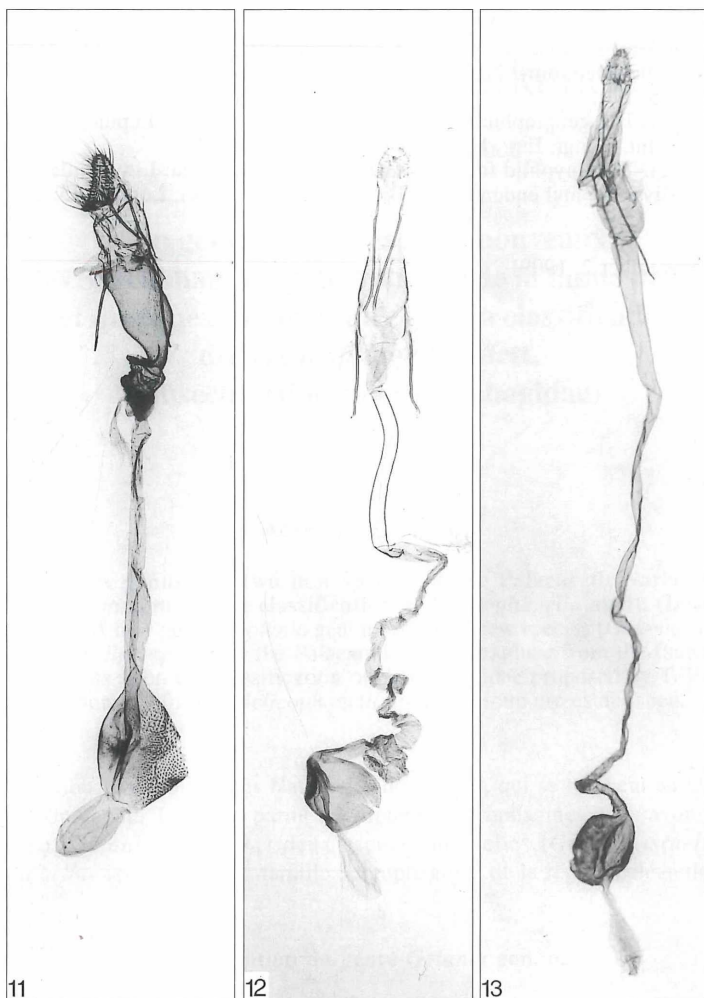
Figs. 5–10: Male genitalia.

5–6: *Scoparia albonigra* sp. n., paratype, Malawi, Mulanje Mts, GU Nuss 812. – 7–8: *Eudonia malawiensis* sp. n., paratype, Malawi, Nyika Plateau, GU Nuss 816. – 9–10: *Eudonia gracilineata* sp. n., paratype, South Africa, Lesotho, Maluti Ski Chalet, GU Nuss 873.

Female genitalia. – Corpus bursae small, globular; ductus bursae with one loop, colliculum very long, comprising half the length of the ductus bursae; antrum membranous and spinulose.

Distribution. – Known only from alpine altitudes in Lesotho, South Africa.

Derivatio nominis. – Named to reflect the graceful (= *gracilis*) but contrasting white lines (= *linea*) of the forewings.



Figs. 11–13: Female genitalia.

11: *Scoparia albonigra* sp. n., paratype, Malawi, Mulanje Mts., GU Nuss 875. – 12: *Eudonia malawiensis* sp. n., paratype, Malawi, Nyika Plateau, GU Nuss 817. – 13: *Eudonia gracilineata* sp. n., paratype, South Africa, Lesotho, New Oxbow Lodge, GU Nuss 874.

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