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Taxonomic notes on African Tortricidae I: *Simpligena auromarginea* gen. nov., sp. nov., a peculiar new genus and species of Tortricidae (Lepidoptera) from Tanzania

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Abstract: A new genus and species *Simpligena auromarginea* **gen. nov.**, **sp. nov.** are described from Tanzania. The systematic position of the new genus is discussed, and the adult moth and its male and female genitalia are figured.
Key words: *Hystrichophora*., Tanzania, Taxonomy
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INTRODUCTION

Considerable taxonomic work on the Afrotropical tortricid fauna has been made during the last two decades (Brown *et al.* 2023). Despite these efforts probably hundreds of species remain to be described. Many of them await discovery in the field, but there is also a considerable backlog in the existing collections. The present contribution deals with a peculiar species collected by the author in Tanzania more than thirty years ago.

METHODS AND MATERIALS

The material dealt with in the present paper was collected at light using an electric mercury vapor bulb in front of a white sheet. A portable generator provided the electric power needed. The specimens were kept alive singly in glass tubes until the next morning and killed with ethyl acetate. The moths were pinned, and the wings spread on the setting board immediately after they had been killed.

Dissection of the genitalia followed Robinson (1976) and was made using a Leica MZ6 stereoscopic microscope. The genitalia were embedded in euparal on glass slides. Photos of the genitalia were taken through a Leica 6000B microscope using a Leica DFC 420 digital camera. The terminology of genitalia and morphological structures follows Horak (2006).

Contours from an original photo of a dry specimen were transferred to paper. While viewing the specimen through a stereoscopic microscope, fine brushes were used to add water colours to the image on the paper.

NHMO: Natural History Museum, University of Oslo, Norway

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RESULTS

Tortricidae Latreille, 1802
Olethreutinae Walsingham, 1895
Enarmoniini Diakonoff, 1953

Descriptions:
Simpligena **gen. nov.**
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Type species: *Simpligena auromarginea* **sp. nov.**

Diagnosis:
The morphology of the male genitalia makes *Simpligena* **gen. nov.** unique. The large and broad tegumen without any of the "normal" appendages as uncus, socii or gnathos, as well as the large phallus and small valva separate it from all known genera and species of the family. *Simpligena auromarginea* shows some resemblance with *Hystrichophora* Walsingham, 1879 which has falcate forewings and male genitalia with a large tegumen and a large and curved phallus as in the present new genus. However, the uncus in *Hystrichophora* is well developed, and in the female genitalia the signa are different, and the ductus seminalis has a different position (Agassiz, 2011; Agassiz & Aarvik, 2014; Razowski, 2015).

Description:
Head: Roughly scaled; labial palp 1.4 times diameter of eye, terminal segment short, barely visible due to scaling of second segment; antenna with appressed scales, distally serrate.

Thorax: smooth-scaled. Forewing: Apex prolonged; all veins present, Ms developed, M3 and CuA1 from same point. Hindwing: All veins present. M3 and CuA1 short stalked. Legs without sexual modifications in male.

Male genitalia: Tegumen large, broad, posterior corners convex, each with seven stout setae, uncus absent; valva basally broad, apically hooked, sacculus with row of long bristles, basal excavation large, reaching two thirds of the length of valva; caulis long; phallus large, evenly curved, tapered, without cornuti (Fig. 1).

Female genitalia: Papillae anales basally slender; posterior apophyses shorter than anterior ones; sterigma posteriorly with complex paired structure; ostium with sclerotized margins laterally and anteriorly; ductus bursae slender, membranous; ductus seminalis attached to ductus bursae close to entrance of corpus bursae; corpus bursae globular, with two horn-shaped signa; posterior margin of sternum 7 forming wide v-shaped cancavity (Fig. 2).

Etymology: The name of the genus refers to the peculiar, simplified male genitalia.

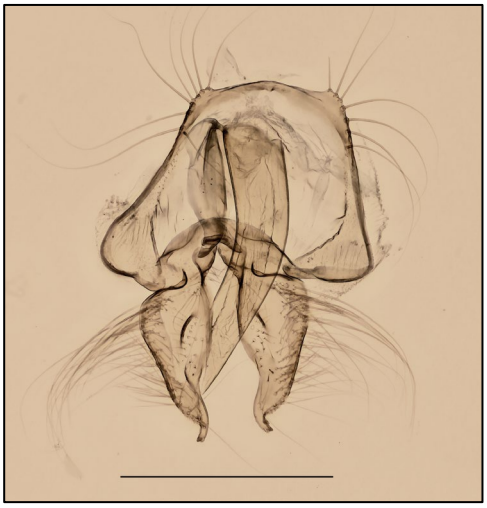

Figure 1 – Male genitalia of holotype of *Simpligena auromarginea* **sp. nov.** Genitalia slide 2854 L. Aarvik. Scale 0.5 mm.

Figure 2 – Female genitalia of paratype of *Simpligena auromarginea* **sp. nov.** Genitalia slide 2855 L. Aarvik. Scale 0.5 mm.

Simpligena auromarginea **sp. nov.**
urn:lsid:zoobank.org:act:36A53814-B597-41FF-B6A2-C37305F30658
Figs 1–3

Type material:
Holotype: ♂, Tanzania: Morogoro District; Kitulangalo Forest Reserve, 420–540 m; 6.xii.1992; leg. L. Aarvik. Genitalia slide 2854 L. Aarvik, coll. NHMO.
Paratypes: 1♂,2♀♀, same data as holotype, genitalia slide ♀ 2855 L. Aarvik, genitalia slide ♂ 4449 NHMO. 1♂, same data as holotype, but collected 1.i.1993. All paratypes in NHMO.

Diagnosis: Externally easily recognizable in the falcate forewing which apart from the conspicuous yellow termen, is plain brownish-grey.

Description:
Head: As for the genus; brownish-grey; labial palp white; antenna brownish-grey on upper side, light brown on underside.

Thorax: Brownish-grey.

Legs: Cream-coloured, tarsi with grey rings.

Wingspan: 10–12 mm.
Forewing: Broad; costa slightly concave sub-apically; termen notched below apex, giving the wing a falcate shape, termen convex below notch. Colour brownish-grey; costal strigulae present as short, oblique thin lines along costa, with brown scaling between the light streaks; terminal area yellow; thin brown line along terminal wing margin from apex to beyond middle of termen. Cilia yellow, darker at apex and grey at tornus. **Hindwing** coloured as forewing (Fig. 3).

Abdomen: Brownish-grey on upper side, underside pale yellow.

Male and female genitalia: As described for the genus.

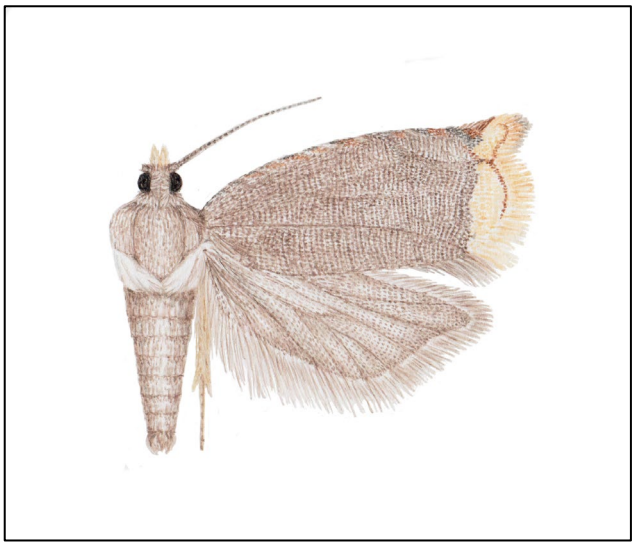

Figure 3 – Paratype female of *Simpligena auromarginea* **sp. nov.** Water painting by Nini Cecilie Roll Aarvik.

Ecology: Foodplant unknown. The collecting site is inside a coastal lowland forest which remains green also during

the dry season; it is surrounded by *Brachystegia*-woodland where trees are deciduous.

Distribution: Known from eastern Tanzania.

Etymology: The species name refers to the yellow terminal area in the forewing.

DISCUSSION

The presence of a basal excavation in the male valva places *Simpligena* **gen. nov.** in the subfamily Olethreutinae. Horak (2006) discussed the characters defining the tribes of the subfamily Olethreutinae and found that a character typical for one tribe may in some cases turn up in a genus of another tribe. Consequently, when molecular data are lacking, tribal placement should be based on careful weighing of morphological traits. The falcate forewing is widespread in Enarmoniini but also occurs in Eucosmini. In the female the horn-shaped signa is plesiomorphic in Tortricidae; in most Enarmoniini they are modified into blade-shaped structures or small scobinate depressions in the wall of the corpus bursae. The insertion of the ductus seminalis close to the corpus bursae is widespread in Enarmoniini (Horak 2006). In the male genitalia the valva with large basal excavation and a row of long bristles from the sacculus is typical for Enarmoniini (Horak 2006). The mentioned characters suggest that *Simpligena* **gen. nov.** most likely is a member of Enarmoniini, and I tentatively associate it with that tribe. The genus *Hystrichophora* belongs to Enarmoniini, and the small valva, large tegumen and large phallus in the male genitalia are traits present both in the latter genus and in *Simpligena* **gen. nov.**

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