

The identity of *Nolasena ferrifervens* WALKER, [1858] 1857 (Lepidoptera: Noctuidae: Ophiderinae)

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Abstract

Nolasena ferrifervens WALKER, [1858] 1857, type species of the monotypic genus *Nolasena* WALKER, [1858] 1857 is redescribed. A contribution to the anatomy of the abdomen and the genitalia is presented. Both sexes are illustrated. The systematic position of *N. ferrifervens* remains unclear. A transfer from the subfamily Ophiderinae to the Hypeninae seems possible. The genus *Nolasena* could be allied with the genus *Catada* WALKER, [1859] 1858.

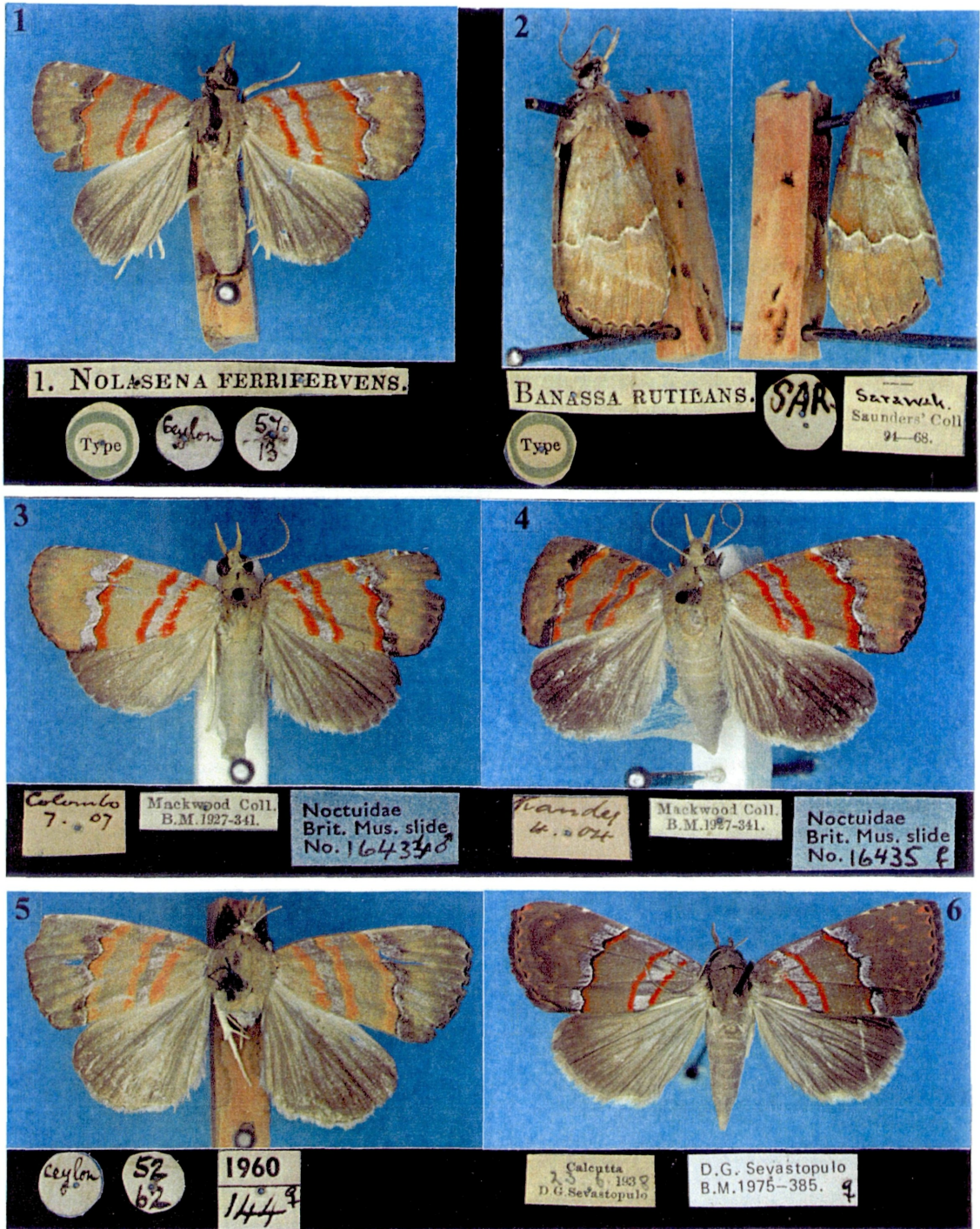
Zusammenfassung

Nolasena ferrifervens WALKER, [1858] 1857, Typus-Art der monotypischen Gattung *Nolasena* WALKER, [1858] 1857 wird wiederbeschrieben. Die Anatomie des Abdominalschlauches sowie der Genitalorgane wird behandelt. Beide Geschlechter werden illustriert. Die systematische Position von *N. ferrifervens* bleibt unklar. Ein Transfer von der Unterfamilie Ophiderinae in die Unterfamilie Hypeninae ist nicht auszuschließen. Möglicherweise wird die Gattung *Nolasena* Beziehungen zur Gattung *Catada* WALKER, [1859] 1858 aufweisen.

Key words: *Banassa*, *Catada*, Hypeninae, *Nolasena*, Ophiderinae, Oriental Region, redescription.

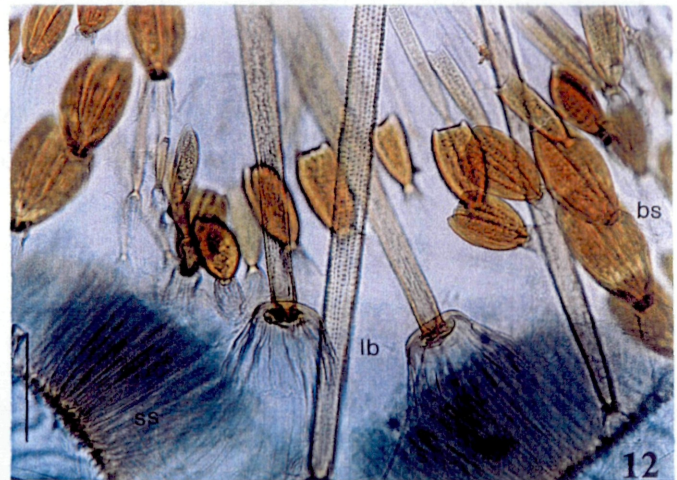
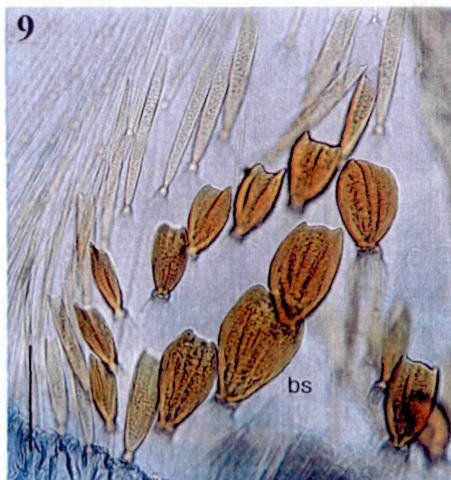
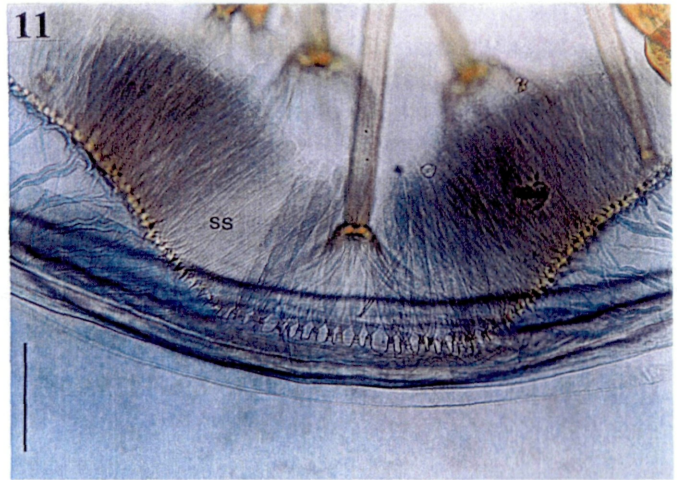
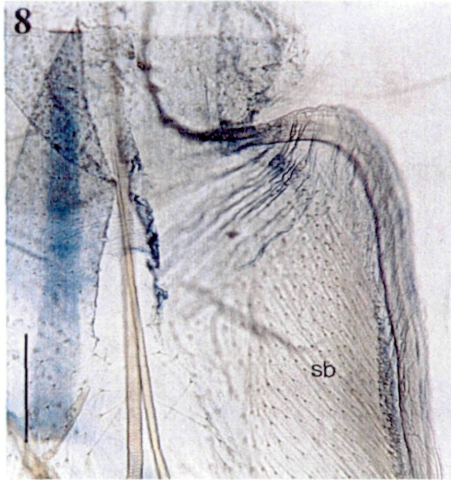
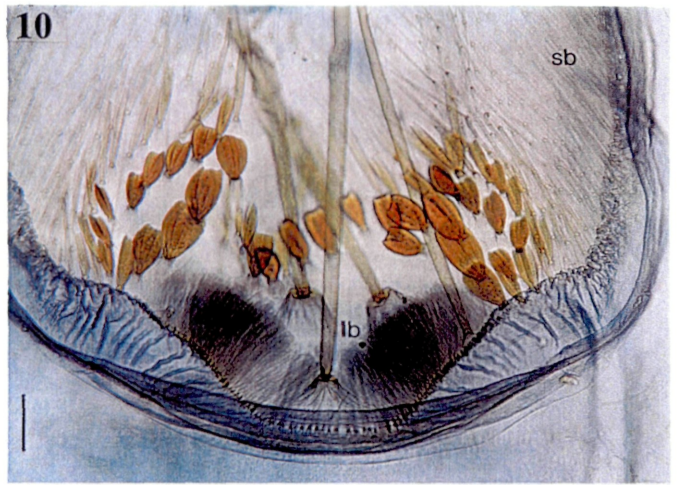
Introduction

In the year 1858 Walker created the monotypic genus *Nolasena*, based on the species *Nolasena ferrifervens* WALKER, [1858] 1857. This taxon was placed in the family Hyblaeidae. The colourful, tiny noctuids exhibit an interesting anatomy of the abdomen and the genitalia structure. Aim of this paper is the redescription of the species *N. ferrifervens* and a punctuation of the characteristic features. This species with long palps and a wing shape as members of the genus *Catada* WALKER, [1859] 1858 have, is treated as a member of the subfamily Ophiderinae (NYE 1975, POOLE 1989).



Figs. 1-6 *Nolasena ferrifervens* WALKER, [1858] 1857:

Fig. 1: Holotype, ♀.- Fig. 2: *Banassa rutilans* WALKER, 1863, right and left side of the holotype, ♀.- Fig. 3: ♂, Sri Lanka.- Fig. 4: ♀, Sri Lanka.- Fig. 5: ♀, Sri Lanka.- Fig. 6: ♀, India.



Figs. 7-12 *N. ferrifervens*, features of the ♂ - abdominal segment 8 (A8). Noctuidae Brit. Mus. slide No. 16434 (previous page / vorige Seite):

Fig. 7: A8, total. Scale = 0.5 mm.

Fig. 8: Folded margin of sternit 8 covered with fine bristles (sb).- Scale = 0.1 mm.

Fig. 9: Broad scales (bs) near the insertion area of the long bristles (lb) .- Scale = 0.1 mm.

Fig. 10: Cephal part of sternit 8 with fine pointed bristle-like scales (lb) .- Scale = 0.1 mm.

Fig. 11: Cephal part of sternit 8 bordered with smooth and slender scales (ss) .- Scale = 0.1 mm.

Fig. 12: Cephal part of sternit 8. Details of the insertion area of the long bristles (lb) surrounded with broad scales (bs) .- Scale = 0.1 mm.

The decision for or against this position will not be possible before an exact definition of the Catocalinae - Calpinae (= Ophiderinae s.str.) based on the type-genera is presented. It could well be that *Nolasena* is better treated as a Hypeninae with relationships to the genus *Catada*. In the year 1863 Walker described the same species as *Banassa rutilans* and placed it in the family Galleridae („Crambites“).

Nolasena ferrifervens WALKER, [1858] 1857

(Figs. 1-26)

Nolasena ferrifervens WALKER, [1858] 1857: 982.

Banassa rutilans WALKER, 1863: 20.

Type material:

Nolasena ferrifervens, **Holotype**: ♀ "Type \ 1. *Nolasena ferrifervens*. \ Ceylon 57 13" (Fig. 1) (BMNH).

Banassa rutilans, **Holotype**, ♀ "Type \ *Banassa rutilans*. \ SAR. \ Sarawak. Saunder's Coll 94-68." (Fig. 2, left and right - same specimen from both sides) (BMNH).

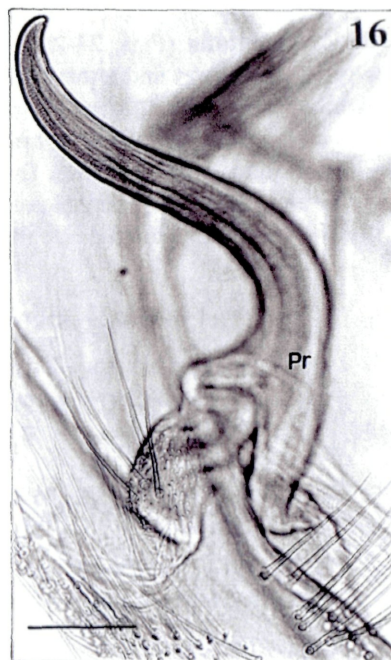
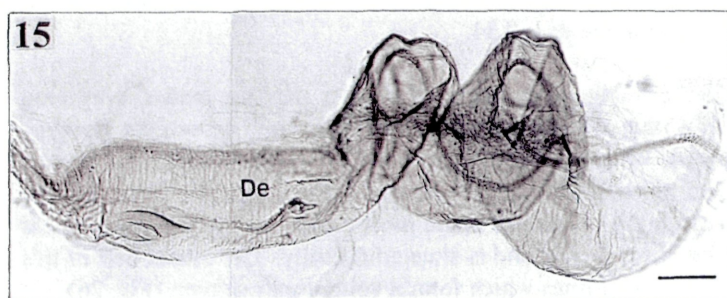
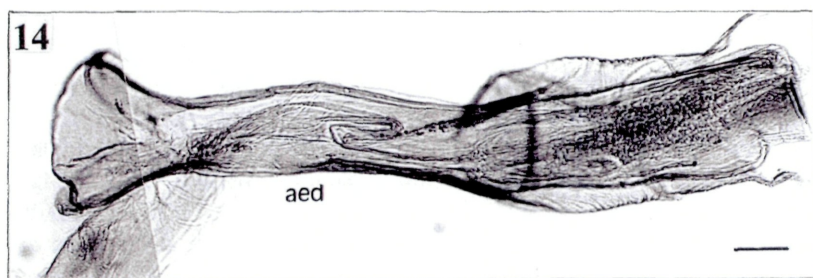
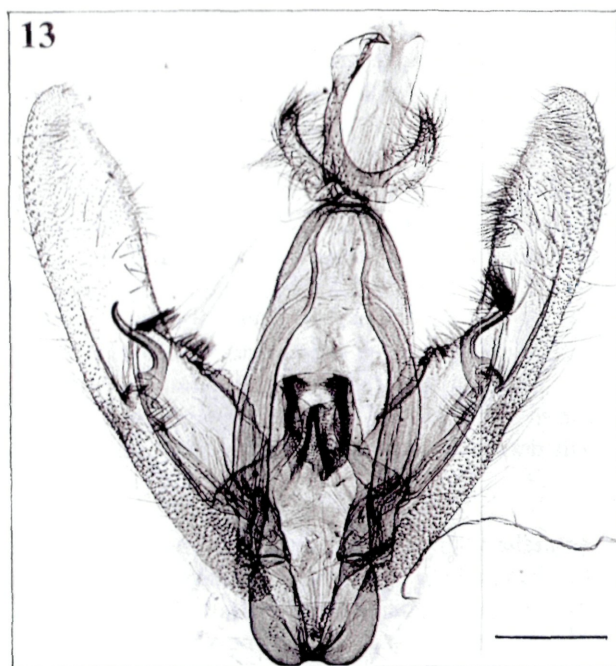
Additional material:

India: 1 ♀, Calcutta, 23.VI.1938, D.G. Sevastopulo (Fig. 6) (BMNH).- **Sri Lanka:** 1 ♀, Ceylon, 52 62, 1960, 144 (Fig. 5); 1 ♂, Colombo, 7.07, Mackwood Coll., B.M. 1927-341, Noctuidae Brit. Mus. slide No. 16434 ♂ (Fig. 3); 1 ♀, Kandy, 4.04, Mackwood Coll., B.M. 1927-341, Noctuidae Brit. Mus. slide No. 16435 ♀ (Fig. 4) (BMNH).

Description

Head: Broad, olive brown, covered with smooth scales. The labial palps long, porrect, pale beige or pale olive brown. II on the upper margin with a bush of long scales.

Thorax and abdomen (Figs. 7-12, 17): Thorax and abdomen are stout and short and olive brown. Laterally the thorax is coloured pale beige. The legs are pale beige or pale yellowish grey. Forelegs simple. A1 (A = abdominal segment) exhibits a postspiracular hood (sp1 = spiracle 1 in fig. 17). Counter tympanum very prominent. The spiracles are significantly big. A6/7 and A5/6 dorsally with protruding skinny fold. A4/5 and A3/4 ventrally with protruding skinny fold. A8 exhibits some striking features in the ♂. T8 (T = tergite) is more or less skinny and flabby and shows a longitudinal furrow in the middle. St8 (St = sternite) is very complex (Figs. 7-12). The major part of St8 is a bowl which is open distally and surrounded by a folded margin (Fig. 7). This margin is roughly skinned (Fig. 8). The bowl is protruding bag-like into the A7 area and bears several fields of aberrant scales and bristles at its proximal margin (Figs. 9-12). Fine bristles cover both sides of the bowl (sb).



Figs. 13-17 *N. ferrifervens*, ♂-genitalia, Noctuidae
Brit. Mus. Slide No. 16434:

Fig. 13: Genitalia corpus, total. Scale = 0.5 mm.-

Fig. 14: Aedeagus. Scale = 0.1 mm.- **Fig. 15:**

Ductus ejaculatorius. Scale = 0.1 mm.- **Fig. 16:**

Sacculus process with basal bristles. Scale = 0.1

mm.- **Fig. 17:** First abdominal segment with spiracle
1 and counter tympanum. Scale 0.1 mm.

In the middle of the proximal margin are found three distinct, long and fine-pointed bristle-like scales (lb) which extend to the end of the abdomen (Figs. 10-12). The insertion areas of these bristles are surrounded by big, broad scales (bs) (Figs. 9, 12). Another type of smooth and slender scales (ss) is found as a dense border along the proximal margin (Figs. 11, 12).

Wings: Wingspan = 18 - 21 mm; length : width of forewing = 1.65 - 1.75. Rounded wings with olive coloured forewings and dark greyish brown hindwings. Predominant are two broad and colourful oblique bands on the forewing. Both bands are running from the costal margin to the inner margin. The first is situated in the Q2 area and consists of a red inner band and a red band on the outer side. In the middle there is a silver grey area. this triple band is slightly curved, never waved significantly. The second band complex originates in the middle of the costal margin and is significantly waved. The band is red, followed by a waved black line and a silver grey area at the outer margin. The costal dots near the apex are white and prominent. The subterminal area is insignificant and just marked with small reddish brown dots. The outer margin is marked with reddish dots and with black spots in their middle. The fringe is dark olive brown.

♂-genitalia (Figs. 13-16, 18-23): Slender genitalia with slender valves and notched, rounded vinculum. Uncus slightly curved, broad at the distal third and with a pair of long, impressive socii which are densely covered with hair-like scales (Fig. 18). The valves are slender, curved in the middle of the dorsal margin and with a serrated and bristle-covered dorsal margin at the base. The valves are densely covered with scales at the distal area and especially along the sacculus. The sacculus is slender and not prominent and ends in a sclerotized, curved process which stands in the middle of the valve (Pr in figs. 16, 23). The base of this process bears a granular field of bristles (Fig. 16). The tegumen is slender and somewhat curved at the ventral margin. The vinculum is rounded and notched and slightly protruding proximally (Figs. 19, 21). The saccus area is granular and sclerotized and exhibits a skinny region covered with long hair-like scales (Fig. 21). The diaphragma-area is very complex, consisting of a granular transtilla-area and an anellus similar to a finger of a glove (Fig. 20). The ventral part of the anellus wears two longitudinal, heavily sclerotized ribs (Fig. 22) and a granular and skinny juxta-area. The finger-like anellus tube wears sclerotized granular areas inside. The aedeagus (aed in fig. 14) is slightly curved or kneed and exhibits an enlarged coecum like the distal end of a bone. The distal part of the aed is extended ventrally. The ductus ejaculatorius (De in fig. 15) shows a double loop. Relations: Length of valve : width of valve = 5; length of uncus : length of genitalia corpus without uncus = 0.38; length of valve : length of genitalia corpus without uncus = 0.84.

♀-genitalia (Figs. 24-26): Slender genitalia with long and slender papillae anales, very long apophyses posteriores and a total length of 4 mm. A8 is densely covered with small spines. the sterigma consists of two folded, sclerotized pockets which stand ventrally of the ostium (area of lamella antevaginalis). Ductus bursae is broad and holds some sclerotized areas (Fig. 25). The bursa is very slender and looped several times. Ductus seminalis originates in the most caudal part of the bursa and is very fine and skinny. The cephal part of the bursa is oval and is situated dorsally. The caudal half of this part of bursa is marked by a dense field of star-like spines which form a voluminous signum (Fig. 26).

Acknowledgements

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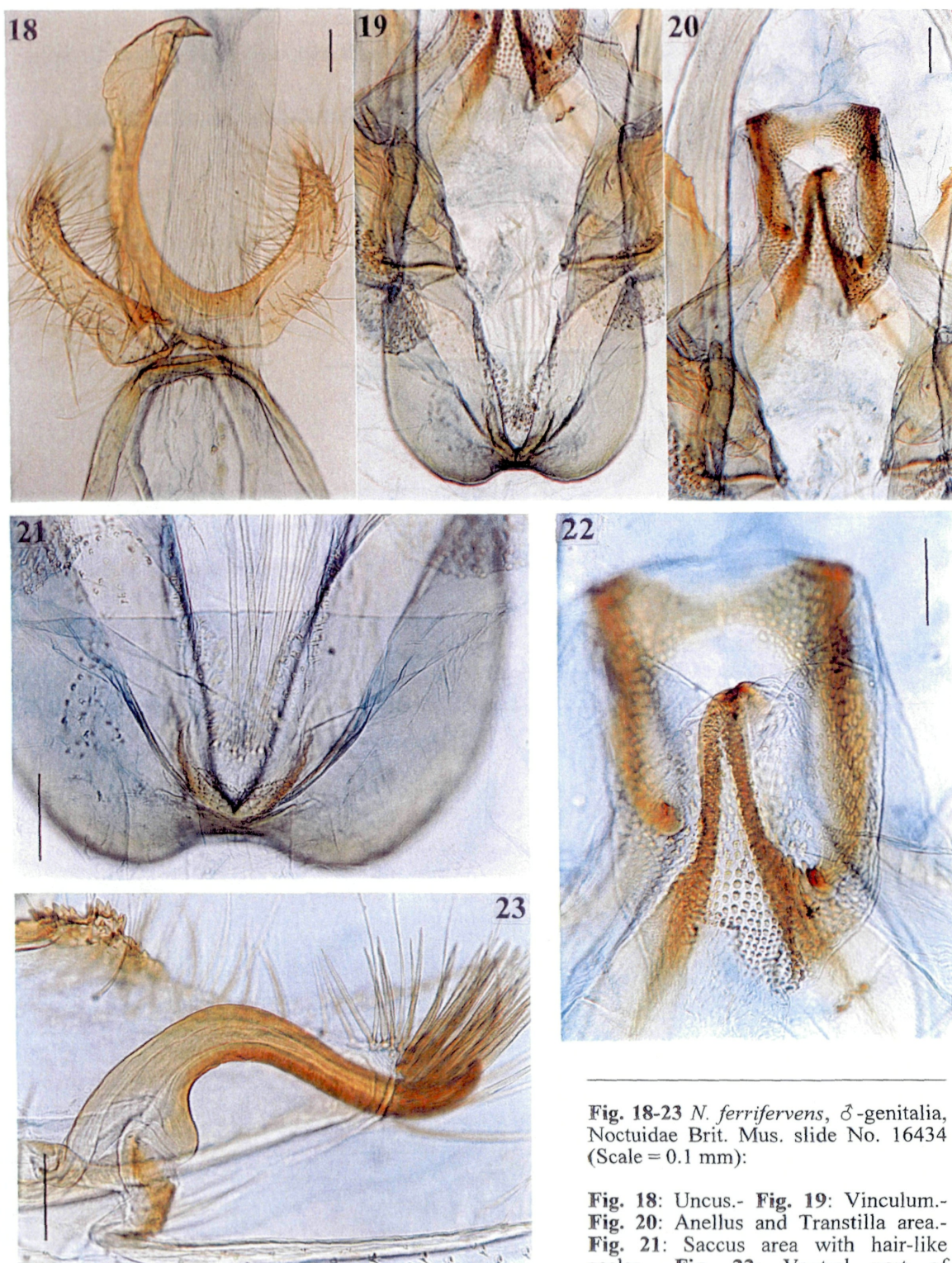


Fig. 18-23 *N. ferrifervens*, ♂-genitalia, Noctuidae Brit. Mus. slide No. 16434 (Scale = 0.1 mm):

Fig. 18: Uncus.- **Fig. 19:** Vinculum.-
Fig. 20: Anellus and Transtilla area.-
Fig. 21: Saccus area with hair-like scales.-
Fig. 22: Ventral part of anellus.- **Fig. 23:** Sacculus process of the right valve.

WALKER, F. [1858] 1857: List of the Specimens of Lepidopterous Insects in the Collection of the British Museum. Part XII. - Edward Newman, London: 764-982.

WALKER, F. 1863: List of the Specimens of Lepidopterous Insects in the Collection of the British Museum. Part XXVII. - Edward Newman, London: 1-286.

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Figs. 24-26 *N. ferrifervens*, ♀-genitalia, Noctuidae Brit. Mus. slide No. 16435 (next page / nächste Seite):

Fig. 24: Genitalia, total. Scale = 0.5 mm.

Fig. 25: Papillae anales and ductus bursae. Scale = 0.1 mm.

Fig. 26: Bursa with signum of star-like spines. Scale = 0.1 mm.

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