

Revision of the genus *Perciana* WALKER, 1865 (Lepidoptera: Noctuidae: Hypeninae)

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Abstract

The genus *Perciana* WALKER, 1865 is revised. *Perciana gretae* sp.n. from Taiwan is described as new. [*Hypoepa*] *bambusalis* LEECH, 1889 comb.n. is transferred to *Perciana*. *P. flavifusa* HAMPSON, 1894 and *P. meeki* BETHUNE-BAKER, 1906 remain nomina dubia.

Zusammenfassung

Die Gattung *Perciana* WALKER, 1865 wird revidiert. *Perciana gretae* sp.n. aus Taiwan wird als neu beschrieben. [*Hypoepa*] *bambusalis* LEECH, 1889 comb.n. wird in die Gattung *Perciana* transferiert. *P. flavifusa* HAMPSON, 1894 und *P. meeki* BETHUNE-BAKER, 1906 verbleiben Nomina dubia.

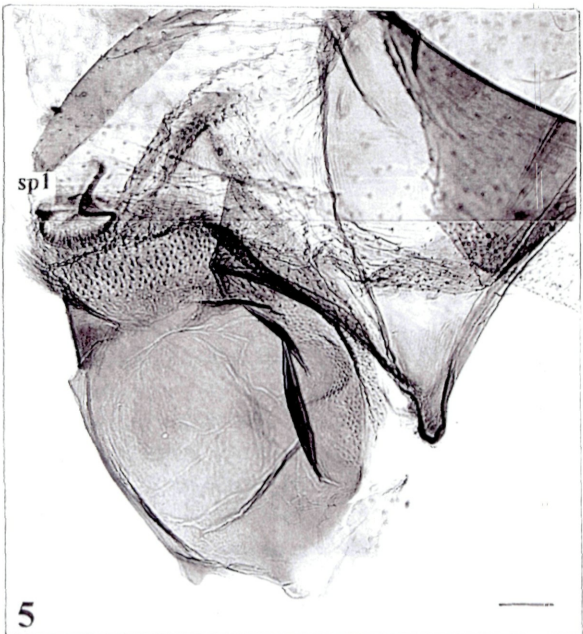
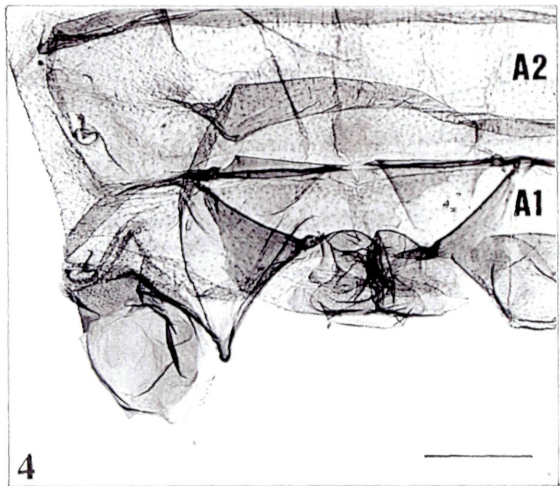
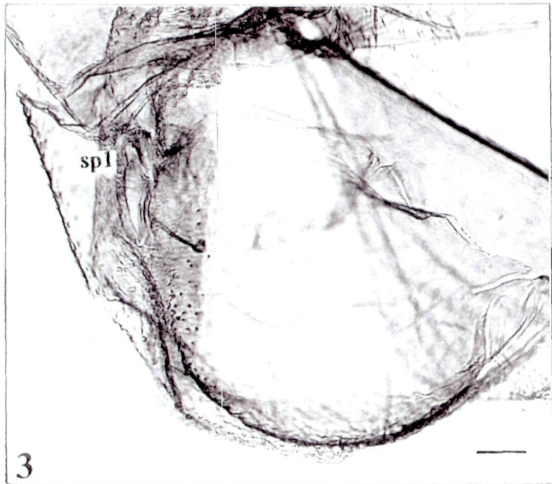
Key words: Hypeninae, new combination, new species, Oriental Region, *Perciana* WALKER, 1865, revision.

Introduction

Perciana WALKER, 1865 was described as a monotypic genus with the type-species *Perciana marmorea* WALKER, 1865. After having investigated all accessible species with its types the revision of the genus is presented.

Figs. 1-5 Prespiracular hood of *Perciana*-species (next page / nächste Seite):

Fig. 1: *Perciana gretae* sp.n., paratype ♀, Noctuidae Brit. Mus. slide No. 16432. Scale = 0.1 mm.- **Fig. 2:** *P. taiwana* WILEMAN, 1911, lectotype ♂, Noctuidae Brit. Mus. slide No. 16428. Scale = 0.1 mm.- **Fig. 3:** *P. marmorea* WALKER, 1865 ♀, Noctuidae Brit. Mus. slide No. 16429. Scale = 0.1 mm.- **Fig. 4:** *P. dentatus* (HAMPSON, 1894), lectotype ♀, Noctuidae Brit. Mus. slide No. 16431. Scale = 0.5 mm.- **Fig. 5:** dto.- Scale = 0.1 mm. Typical herminiine sp1 on membraneous connection between tympanal hood and lateral sclerite. The membraneous connection is very broad.



Abbreviations (according to Lödl 1993a and 1993b):

II	2nd joint of labial palpus	ct	counter tympanum	RM	orbicular spot
III	last joint of labial palpus	Db	Ductus bursae	SF	dots along outer margin
Aa	apophyses anteriores	Ds	Ductus seminalis	sp1	first spiracle
A1 - A8	abdominal segments 1 - 8	gl	total length of female genitalia	St 1 - 8	sternit 1 - 8
acb	width of aedeagus	hm	distance vinculum - uncus base	T 1 - 8	tergit 1 - 8
aed	aedeagus	l	length of forewing	TeE	teguminal ear
ael	length of aedeagus	NM	reniform spot	ub	width of uncus
Ap	apophyses posteriores	pab	posterior abdominal brush	uh	height of uncus
b	width of forewing	PF	arrow marks of forewing	ul	length of uncus
bb	width of corpus bursae	Q2	antemedial line	UM	Hope Collections, University Museum, Oxford, England
bl	length of corpus bursae	Q3	postmedial line	vb	width of valve
BMNH	The Natural History Museum (= British Museum), London	Q4	postmedian line of hindwing	vil	length of vinculum
CF	costal dots			vl	length of valve
				ZSF	Central symmetry system

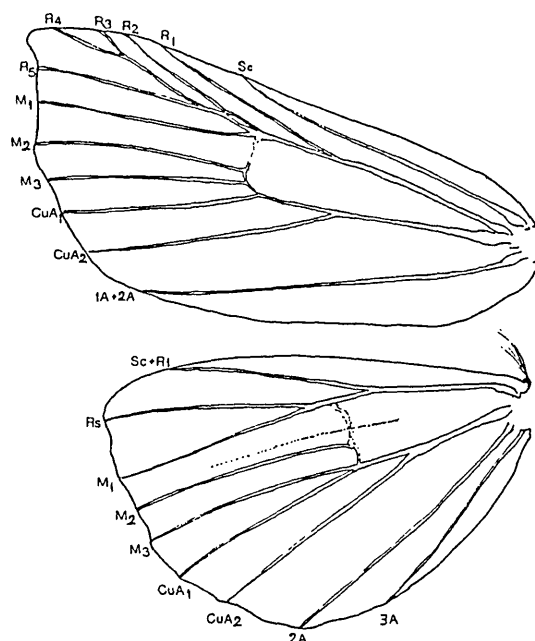


Fig. 6:

Perciana marmorea WALKER, 1865 - ♀, India, Darjeeling. Wing venation. Specimen in BMNH.

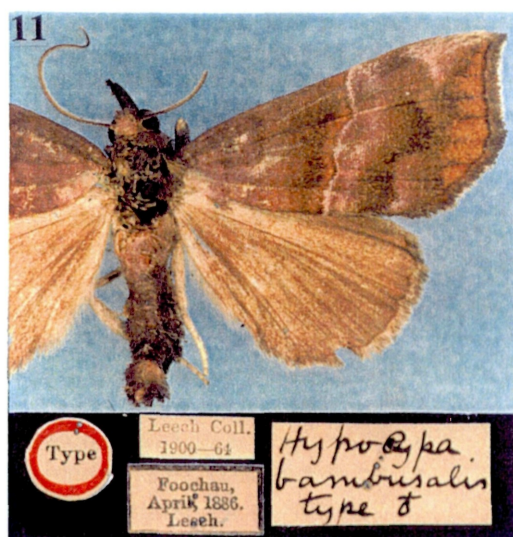
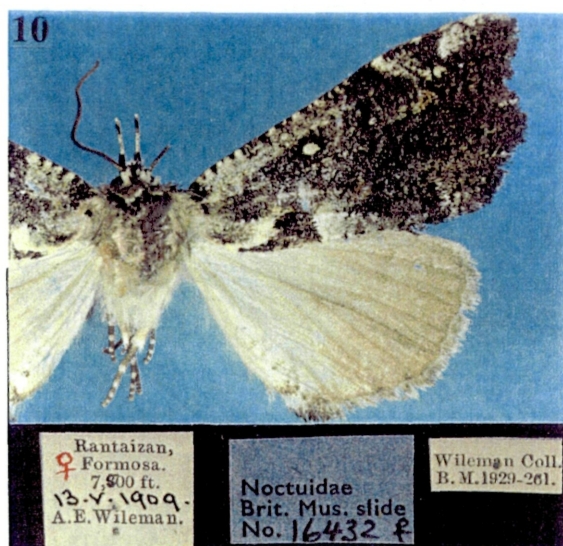
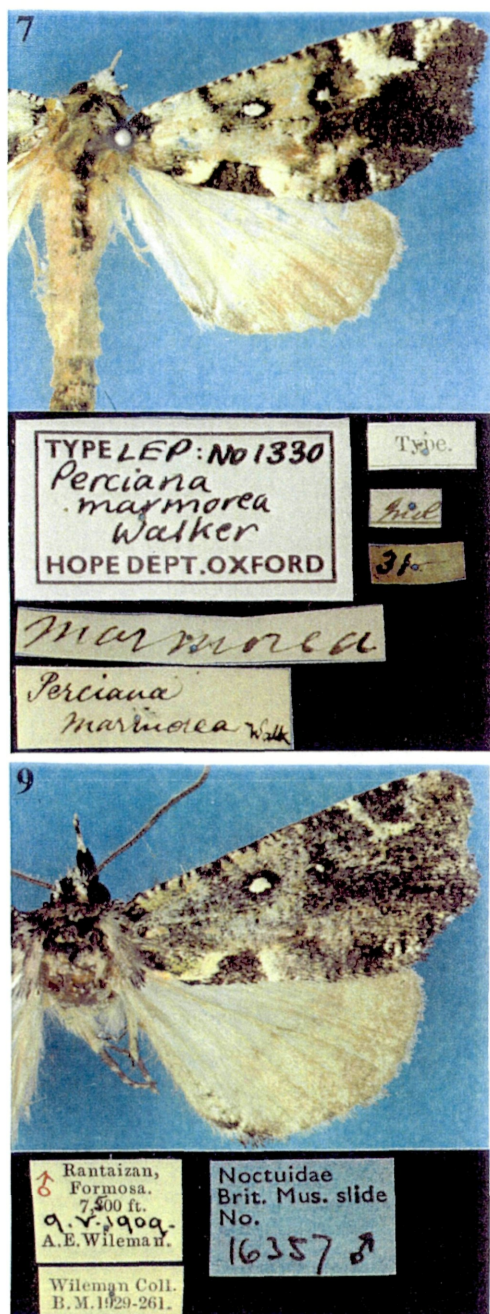
Genus *Perciana* WALKER, 1865

Perciana WALKER, 1865: 812

Type-species: *Perciana marmorea* WALKER, 1865

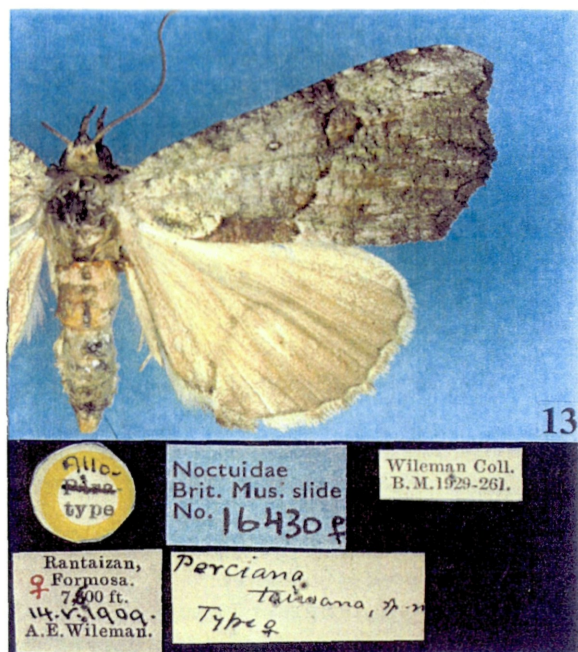
Diagnostic features:

- Noctuids of an average of 30 mm wingspan and typical noctuid wing pattern. Apex of forewing fine pointed, outer margin outcurved. Wing pattern contrasting with dull brown, greyish and greenish colours and with predominant RM, NM and Q3 in most species. Hindwings normally pale brownish or whitish with black markings at the anal angle.
- Labial palps obliquely porrect, III spatulate.
- A8 with a complex system of ribs and pab's. T8 with a longitudinal, median rib which splits into two more or less prominent apophyses protruding into the abdominal lumen. This is most likely a muscle insertion point. St8 with a lyra-like fold, distally with a pair of pab's and proximally with a weak, broad, central pab.
- Boundary of A2/A3 ventrally with a transverse fold of the abdominal surface.
- sp1 within the ct, so a prespiracular hood is present. This is unusual for this type of noctuids and links to the genus *Mecistoptera* HAMPSON, 1893. This genus was revised by LÖDL (1997) (Figs. 1-5).



Figs. 7-11:

Fig. 7: *Perciana marmorea* WALKER, 1865 - Holotype, ♂ (UM).- Fig. 8: dto.- ♀ (BMNH).- Fig. 9: *P. gretae* sp.n. - Holotype, ♂ (BMNH).- Fig. 10: dto.- Paratype, ♀ (BMNH).- Fig. 11: *P. bambusalis* (LEECH, 1889) - Holotype, ♂ (BMNH).



Figs. 12-16|previous page / vorige Seite:

Fig. 12: *Perciana taiwana* WILEMAN, 1911 - Lectotype, ♂ (BMNH).- Fig. 13: dto.- Paralectotype, ♀ (BMNH).- Fig. 14: Painting of *P. flavifusa* HAMPSON, 1894 (BMNH).- Fig. 15: *P. dentatus* (HAMPSON, 1894) - Paralectotype, ♀ (BMNH).- Fig. 16: dto.- Lectotype, ♀ (BMNH).

- M2 and M3 in the hindwing are running parallel. Wing venation see fig. 6.
- Valve with an indentation on the distal margin which divides the distal end of the valve into skinny dorsal part and a ventral part which is densely covered with hair-like scales.
- ♂-genitalia with a very complex juxta, ventrally with a heavily sclerotized structure, formed as a big rib with a caudal tip.
- Valves with two types of processi. 1. A sacculus process. 2. A process of the central part of the valve (ampulla).
- Dorsal margin of the valves indentated in the middle.
- ♀-genitalia ventrally with "rugged" skin between the papillae.
- ♀-genitalia with significant sterigma: Ostium ventrally with a sclerotized bag (Lamella antevaginalis) and dorsally with symmetric, sclerotized plates of different shape and size (Lamella postvaginalis).
- The bursa is built of strong and rough skin with rows and folds. The signum is consisting of a concentrically grouped bundle of sclerotized teeth.
- Aa shorter than Ap, relation significant on species level.

Due to the prespiracular hood the systematic position remains unclear. The author is convinced that *Perciana* and *Mecistoptera* form a monophyletic clade. The knowledge of the „true“ *Hypenas* lead the author to the opinion that *Perciana* and *Mecistoptera* are Hypeninae. This would mean that the prespiracular hood is not an typical feature of the Herminiinae and supports the theory that there evolved several different types of pre- and postspiracular hoods. Another possibility is that *Perciana* and *Mecistoptera* are very aberrant Herminiinae with features evolved convergently to the Hypeninae. Although this is most unlikely it must be said that the type of sp1 is typical herminiine.

Perciana marmorea WALKER, 1865

(Figs. 3, 6-8, 17-38)

Perciana marmorea WALKER, 1865: 813.

Type material:

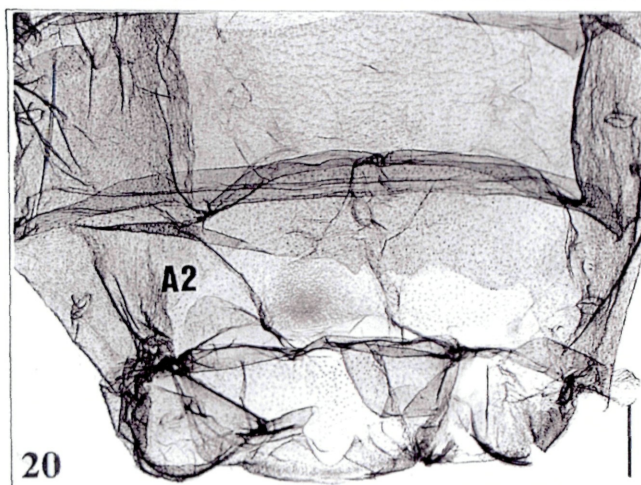
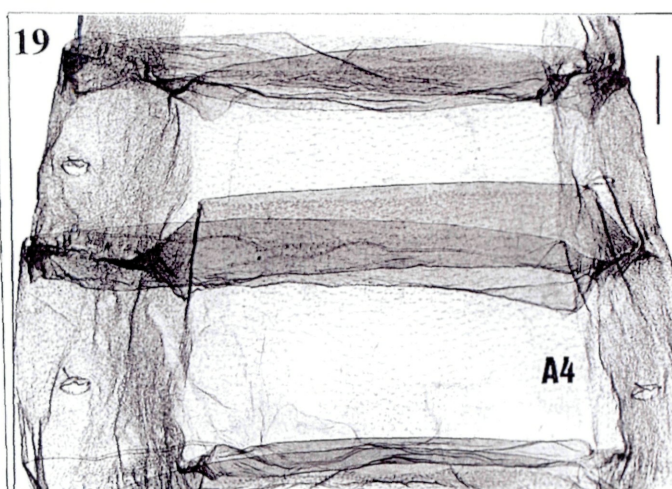
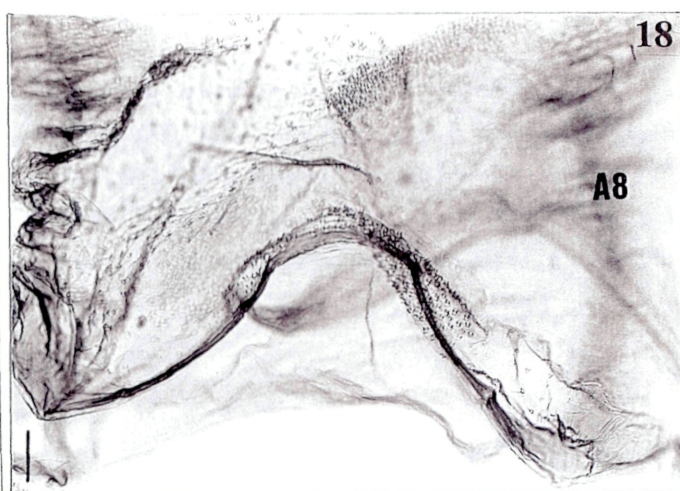
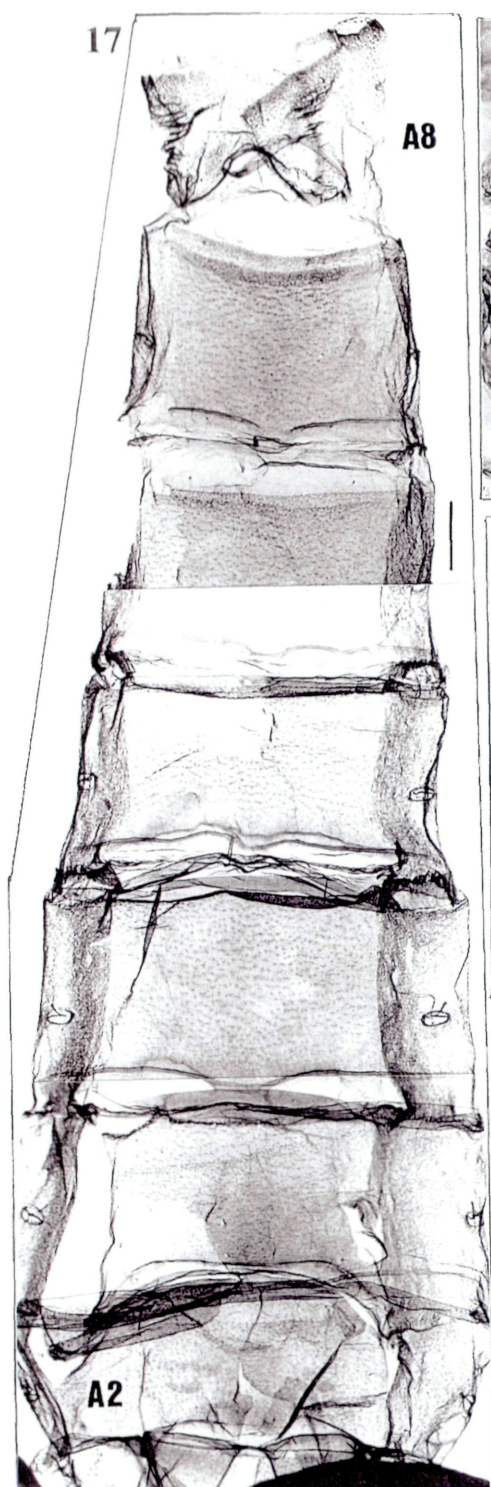
Holotype (Fig. 7): ♂ "TYPE LEP: No 1330 *Perciana marmorea* Walker HOPE DEPT.OXFORD \ marmorea \ 31 \ Ind \ Type \ *Perciana marmorea* Walk \ gen.praep. M.LÖDL no. 690 ♂" (UM).

Additional material:

India: 1 ♀, N.W.India 84.38, Noctuidae Brit. Mus. slide No. 16429 ♀ (Fig. 8); 1 ♀ Darjeeling; 1 ♀ Mishmi Hills, Lohit River, 22.III.1935, M. Steele; 1 ♀ Simla, 25.VII.1937, Maxwell Coll. B.M. 1967-553. (BMNH).

Description:

Head: White with black and dark brown scales, labial palps white, II densely covered with dark scales, III sparsely covered with dark scales and fine pointed. Labial palps standing obliquely upwards, straight, not upcurved. Labial palps on the inner margin and III white.



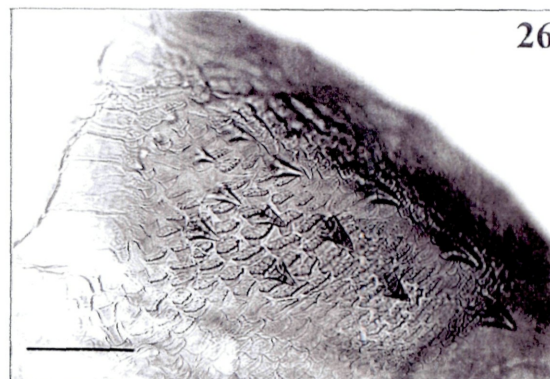
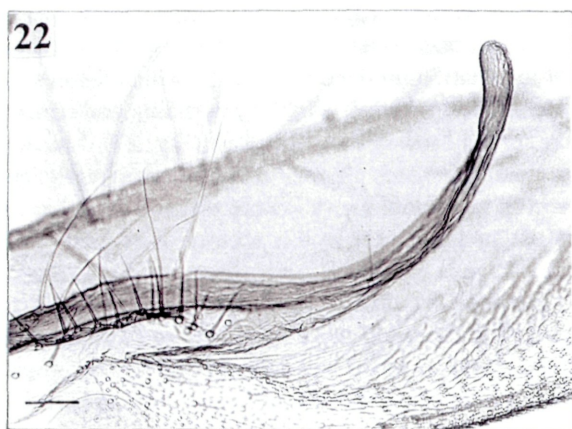
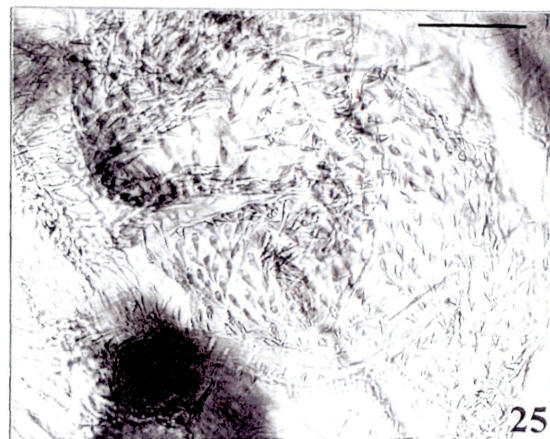
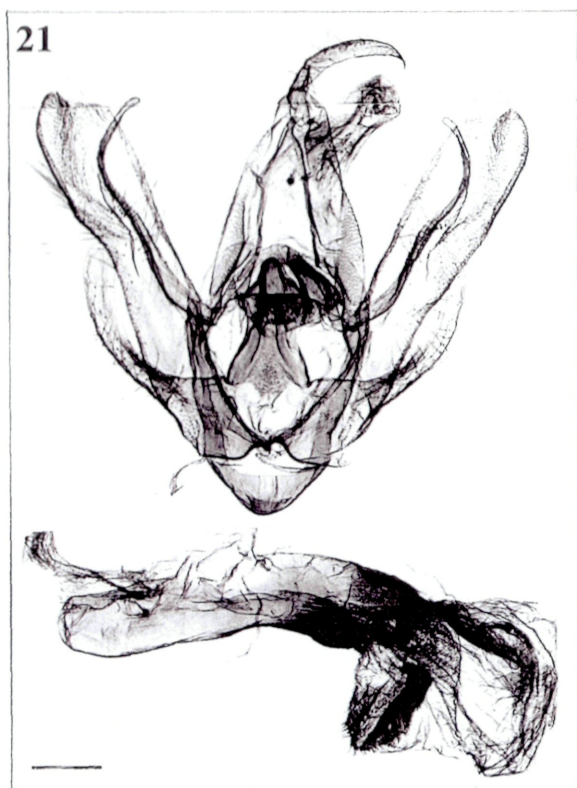
Figs. 17-20 Abdomina of *Perciana marmorea* WALKER, 1865 (previous page / vorige Seite):

Fig. 17: Holotype, ♂, gen.praep. M.Lödl no. 690. Abdomen, total. Scale = 0.5 mm.

Fig. 18: dto.- A8 with pab and apophyses in the background. Scale = 0.1 mm.

Fig. 19: ♀, Noctuidae Brit. Mus. slide No. 16429. A4/A5 with ventral folds. Scale = 0.1 mm.

Fig. 20: dto.- A2/A3 with ventral folds. Scale = 0.1 mm.



Figs. 21-26 *Perciana marmorea* WALKER, 1865, holotype ♂. Gen.praep. M.Lödl no. 690:

Fig. 21: Genitalia, total. Scale = 0.5 mm.- **Fig. 22:** Process of the valve. Scale = 0.1 mm.- **Fig. 23:** Process of the sacculus. Scale = 0.1 mm.- **Fig. 24:** Vesica with cornuti. Scale = 0.1 mm.- **Fig. 25:** Vesica with cornuti. Scale = 0.1 mm.- **Fig. 26:** Carina. Scale = 0.1 mm.

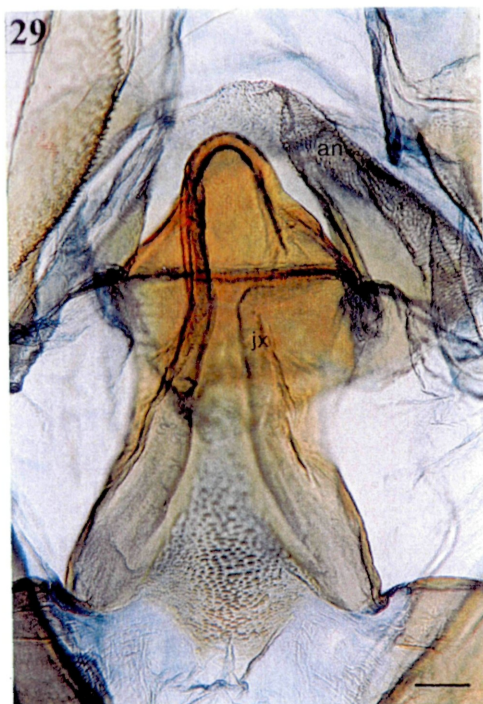
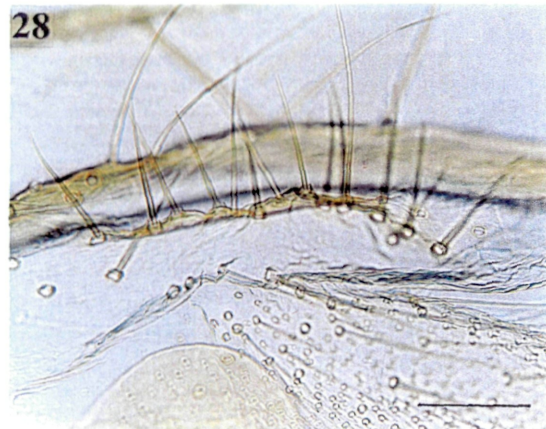
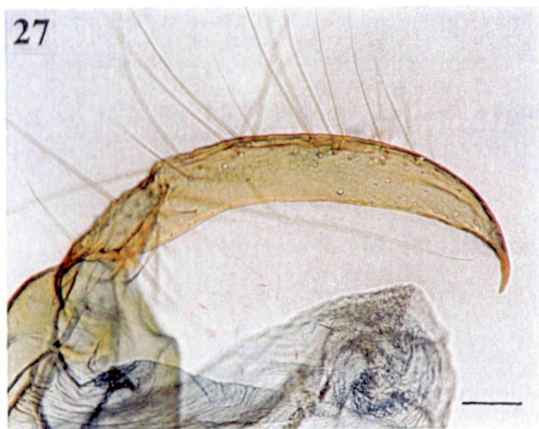
III white with some brown scales, II brown with black scales on the outer margin. Antennae dark, whitish on the base, with long ciliae in the ♂, with very short ciliae in the ♀.

Thorax and abdomen (Figs. 17-20): Thorax brown with pale and dark scales, abdomen pale ochreous or beige with prominent, dark tufts on the first three segments. These tufts consist of spatulate scales. T8 with a longitudinal, median rib which splits into two apophyses protruding into the abdominal lumen (Fig. 18). St8 with a lyra-like fold, distally with a pair of pab's and proximally with a weak, broad, central pab. Laterally St8 wears two parallel, strengthening skin folds (Fig. 17). The cephal margin of St8 is curved. The sternites exhibit skinny folds on the segmental borders, in the ♀ broad in A4 (Figs. 19-20).

Wings: Wingspan = 31 - 39 mm; $l : b = 1.77 - 1.94$. Forewings with outcurved outer margin and contrasting wing pattern. Ground colours are dark blackish brown, white and greyish brown or beige. Costa whitish or beige, speckled with dark brown scales in the middle. CF prominent, big, white. Base of the forewings marked with black, followed by a broad whitish area. Posterior margin in the middle with a dark brown, trapezium like patch. Q2 marked by a dark shadow which is interrupted in its middle. RM broad, oval, white with dark margin. ZSF beige, suffused by dark scales. NM prominent, formed like a black ring with a white centre. Q3 indistinct, surrounded by black, brown and whitish markings. A big, white patch in the postmedial area of the costa. Subterminal area of the forewing dark brown or blackish with some whitish scales. Hindwings whitish, suffused with brown scales, especially in the postmedial area. Posterior margin exhibits a dark area marking the beginning of the postmedian line.

♂-genitalia (Figs. 21-32): With a very complex juxta, ventrally with a heavily sclerotized structure, formed as a big rib with a caudal tip (Figs. 29-30) and valves with two types of process: First a sacculus process which is formed like a big, club-shaped horn (Fig. 23) and second a process of the central part of the valve (ampulla) which is formed as a strongly curved slender horn which clearly extends the distal end of the valve (Fig. 22). This latter process wears parallel to its middle a row of tubercles with bristles (Fig. 28). The valve has a slight indentation on the distal margin which divides the distal end of the valve into skinny dorsal part and a ventral part which is slightly protruding and densely covered with hair-like scales. The uncus is a smoothly curved hook with a fine point (Fig. 27). The anal tube is skinny and insignificant. The tegumen is normally formed, slightly enlarged proximally and densely covered with hair-like scales on the sides. A sort of teguminal-ear (a feature which is found in the *Rhynchina* GUENÉE, 1854 complex) is indicated but not so significant in this species. It is quite more visible in *Perciana taiwana* WILEMAN, 1911. The sacculus ends in a small, sclerotized and hook-shaped clavus. The vinculum is rounded and not very much extended proximally. The aed is strong and of the *Hypena*-type. It is slightly kneed and wears a spinose cuff at the distal end. The structure of this cuff is similar to the scales of a fir-cone (Figs. 26, 31). The aed is not so broad and stout as in *Perciana gretae* sp.n.. The vesica shows several areas of sclerotized, fine cornuti (Figs. 24-25) and wears one big cornutus which is broader and rounded at the base and pike-shaped in the distal half (Fig. 32). The coecum is rounded and slender in relation to *Perciana gretae* sp.n.. The bulbus ejaculatorius exhibits a swelling. Relations: $ul : ub = 6.9$; $vl : vb = 5.2$; $vl : hm = 0.97$; $ael : aeb = 4.9$.

♀-genitalia (Figs. 33-38): The $gl = 6$ mm. Between the papillae anales ventrally a "rugged" skin is situated (Fig. 37). Papillae anales stout and broad (Fig. 37). The ♀-genitalia have a significant sterigma: Ostium ventrally with a heavily sclerotized, rounded bag (Lamella antevaginalis) (Figs. 34, 38) and dorsally with symmetric, sclerotized plates of the shape of shells (Lamella postvaginalis). The bursa is built of strong and rough skin with rows and folds. The folds are covered inside with numerous fine, sclerotized spines (Figs. 35-36). The Ds runs at the distal part into the bursa. This part is characterized by a swelling which is strictly oriented ventrally (Fig. 35). The signum is consisting of a concentrically grouped bundle of sclerotized teeth and is laying on the dorsal surface of the bursa (Fig. 36). The proximal part of the bursa is oriented laterally and not protruding longitudinally in the abdominal lumen as in *Perciana gretae* sp.n.. Relations: $Aa : Ap = 0.6$; length of papillae : $gl = 0.13$.



Figs. 27-32 *Perciana marmorea* WALKER, 1865, holotype ♂. Gen. praep. M.Lödl no. 690, genitalia details (previous page / vorige Seite):

Fig. 27: Uncus. Scale = 0.1 mm.

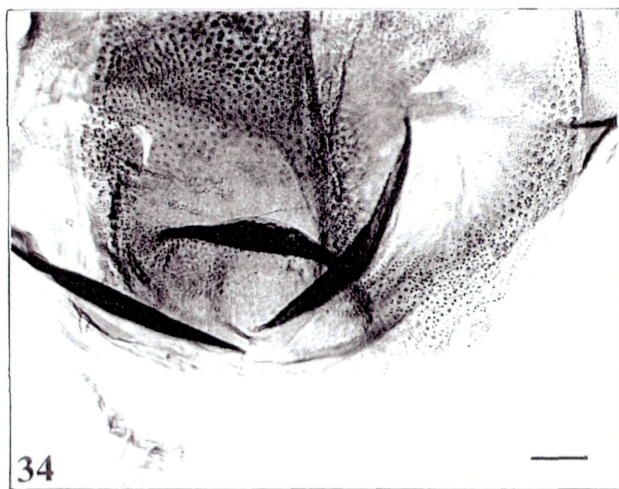
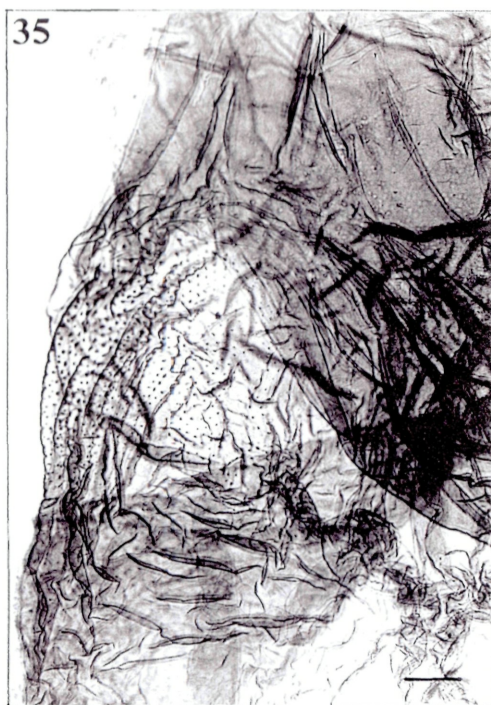
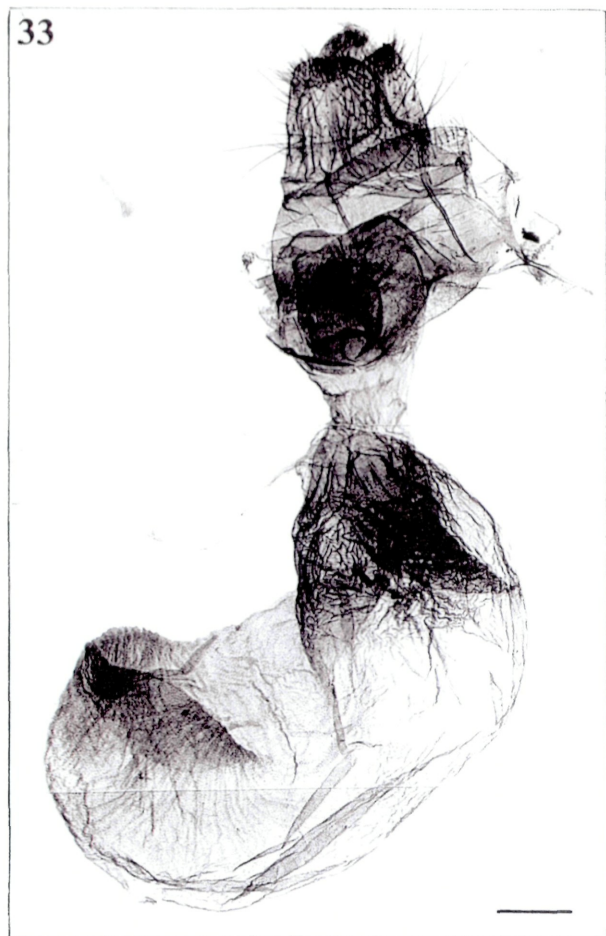
Fig. 28: Area with tubercles and bristles on the base of the valve process. Scale = 0.1 mm.

Fig. 29: Anellus (an) and juxta (jx). Scale = 0.1 mm.

Fig. 30: dto.- different focus. Scale = 0.1 mm.

Fig. 31: Distal end of aedeagus. Scale = 0.1 mm.

Fig. 32: Cornutus. Scale = 0.1 mm.



Figs. 33-36 *Perciana marmorea* WALKER, 1865, ♀. Noctuidae Brit. Mus. Slide No. 16429:

Fig. 33: Genitalia, total. Scale = 0.5 mm.- Fig. 34: Sterigma. Scale = 0.1 mm.- Fig. 35: Folds and sclerotized spines of bursa. Scale = 0.1 mm.- Fig. 36: Signum. Scale = 0.1 mm.

Figs. 37-42 ♀-genitalia of *Perciana*-species (next page / nächste Seite):

Fig. 37: *P. marmorea* WALKER, 1865, Noctuidae Brit. Mus. slide No. 16429. Papillae anales. Scale = 0.1 mm.

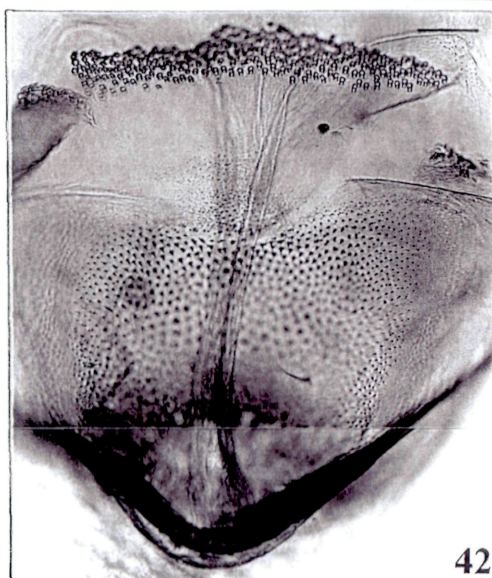
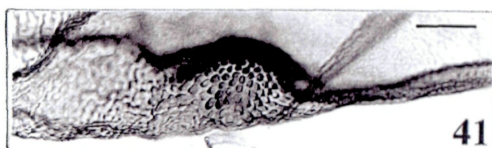
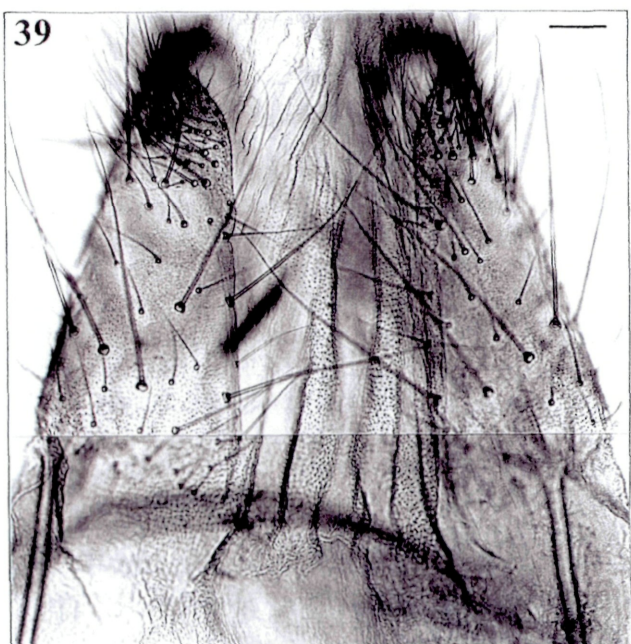
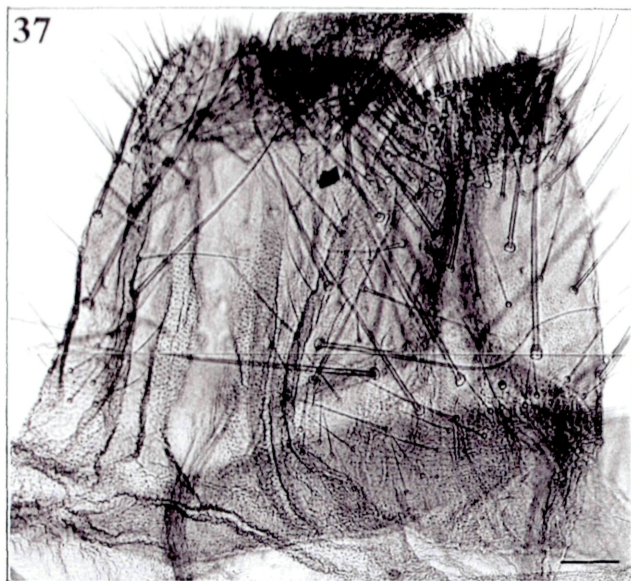
Fig. 38: dto.- Sterigma. Scale = 0.1 mm.

Fig. 39: *P. gretae* sp.n., paratype, Noctuidae Brit. Mus. slide No. 16432. Papillae anales. Scale = 0.1 mm.

Fig. 40: dto.- Genitalia, total. Scale = 0.5 mm.

Fig. 41: dto.- Signum. Scale = 0.1 mm.

Fig. 42: dto.- Sterigma. Scale = 0.1 mm.



Perciana gretae sp.n.

(Figs. 1, 9-10, 39-49)

Type material:

Holotype (Fig. 9): ♂, [Taiwan], „ Rantaizan, Formosa. 7,500 ft. 9.V.1909. A.E. Wileman. \ Wileman Coll. B.M. 1929-261. \ Noctuidae Brit. Mus. slide No. 16357 ♂, (BMNH).

Paratypes: ♀, [Taiwan], „♀ Rantaizan, Formosa. 7,500 ft. 13.V.1909. A.E. Wileman. \ Wileman Coll. B.M. 1929-261. \ Noctuidae Brit. Mus. slide No. 16432 ♀ (Fig. 10),, and 2 ♂♂, 3 ♀♀ with same locality data and the following dates: V.-VII.1908 (1 ♀, abdomen missing), 10.V.1909 (1 ♀, Noctuidae Brit. Mus. slides No. 16433, scales of A1-3), 13.V.1909 (2 ♂♂, 1 ♀) (BMNH).

Derivatio nominis: The new species is named after Grete Bail, Bregenz (Austria).

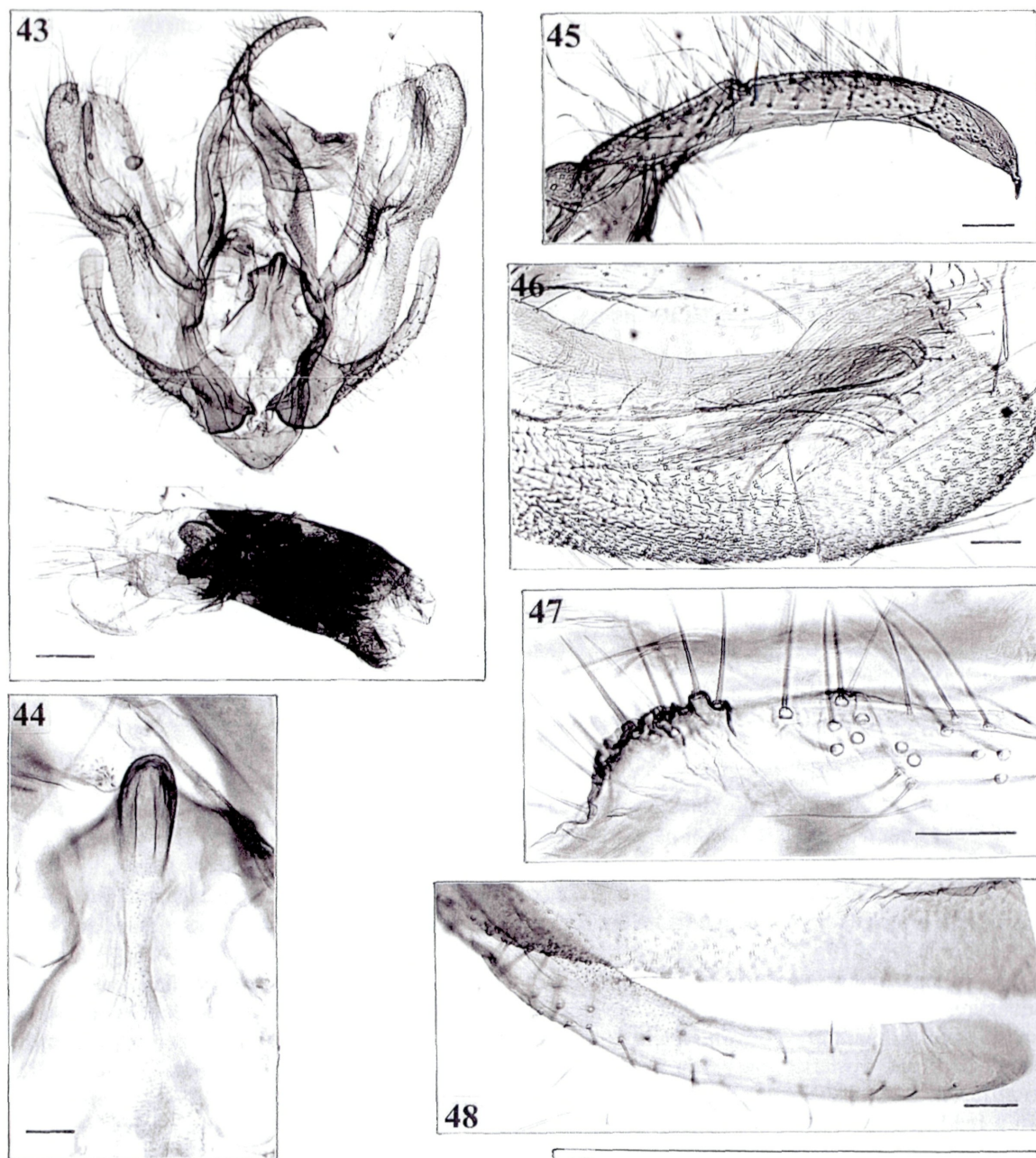
Description:

Head: White with black and dark brown scales, labial palps white, II densely covered with dark scales, III sparsely covered with dark scales and fine pointed. Labial palps standing obliquely upwards, straight, not upcurved. Labial palps on the inner margin and III white. III with brown tip, II brown with black scales on the outer margin. Antennae dark, whitish on the base, with long ciliae in the ♂, with very short ciliae in the ♀.

Thorax and abdomen: Thorax brown with pale and dark scales, abdomen pale ochreous or beige with prominent, dark tufts on the first three segments. These tufts consist of spatulate scales. Abdominal sternites with folds at the segmental borders (A2, A3). A pab is present.

Wings: Flspw = 30-32 mm; l : b = 1.74 - 1.8. Forewings with outcurved outer margin, similar to *P. marmorea* but not so strikingly contrasting wing pattern. Ground colours are dark blackish brown, white and greyish brown or beige. Costa whitish or beige, speckled with dark brown scales in the middle. Costa seems to be more finely speckled than in *P. marmorea*. CF prominent, big, white. Base of the forewings marked with black, followed by a broad greyish area which is speckled with fine dark dots. Posterior margin in the middle with a dark brown, trapezium like patch which exhibits an inner margin more oblique than in *P. marmorea*. Q2 insignificant. RM broad, oval, white with dark margin. ZSF beige, greyish suffused by dark scales. NM prominent, formed like a black ring with a white centre. Q3 indistinct, surrounded by black, brown and whitish markings, not so significant than in *P. marmorea*. A small, white patch in the postmedial area of the costa is present. Subterminal area of the forewing dark brown or blackish with a few whitish scales. Hindwings whitish, suffused with brown scales, especially in the postmedial area. Posterior margin exhibits a dark area marking the beginning of the postmedian line.

♂-genitalia (Figs. 43-49): As in *P. marmorea* with a very complex juxta, ventrally with a heavily sclerotized structure, formed as a big rib with a caudal tip (Figs. 44) which is not so broad as in *P. marmorea*. Valves with two types of process: First a sacculus process which is formed like a big, club-shaped horn (Fig. 48) which is very similar to those of *P. marmorea*. A second process of the central part of the valve (ampulla) is formed like a smoothly curved broad horn which does not extend the distal end of the valve (Fig. 46). This latter process wears parallel to its middle a row of tubercles with bristles (Fig. 47). The valve has a slight indentation on the distal margin which divides the distal end of the valve into skinny dorsal part and a ventral part which is slightly protruding and densely covered with hair-like scales. The valves seem to be a little bit broader than in *P. marmorea*. The uncus is a smoothly curved hook with a fine point and of same size and shape as in *P. marmorea* (Fig. 45). The anal tube is skinny and insignificant. The tegumen is normally formed, slightly enlarged proximally and densely covered with hair-like scales on the sides. A sort of teguminal-ear (a feature which is found in the *Rhynchina* GUENÉE, 1854 complex) is indicated but not so significant in this species. The sacculus ends in a small, sclerotized and hook-shaped clavus. The vinculum is rounded and not very much extended proximally. The aed is very strong and stout and of the *Hypena*-type. It is slightly kneed and wears a spinose cuff at the distal end. The vesica shows several areas of sclerotized, fine cornuti and wears one short and broad cornutus which is pike-shaped in the distal third (Fig. 49). The coecum is rounded and broad in relation to *P. marmorea*. Relations: ul : ub = 7.9; vl : vb = 4.4; vl : hm = 1; ael : aeb = 3.2.



Figs. 43-49 *Perciana gretae* sp.n. - Holotype, ♂. Noctuidae Brit. Mus. Slide No. 16357:

Fig. 43: Genitalia, total. Scale = 0.5 mm.- **Fig. 44:** Anellus. Scale = 0.1 mm.- **Fig. 45:** Uncus. Scale = 0.1 mm.- **Fig. 46:** Process of valve. Scale = 0.1 mm.- **Fig. 47:** Tubercles with bristles on the base of the valve process. Scale = 0.1 mm.- **Fig. 48:** Process of sacculus. Scale = 0.1 mm.- **Fig. 49:** Cornutus. Scale = 0.1 mm.

♀-genitalia (Figs. 39-42): The gl = 6.4 mm. Between the papillae anales ventrally a "rugged" skin is situated (Fig. 39). Papillae anales similar to those of *P. marmorea*, slightly more rounded (Fig. 39). The ♀-genitalia have - as usual - a significant sterigma: Ostium ventrally with a heavily sclerotized, beak-like bag (Lamella antevaginalis) and dorsally with two symmetric, sclerotized plates of the shape of slender shells (Lamella postvaginalis). Distad of the ostium is an area of hair-like bristles (Fig. 42). The bursa is built of strong and rough skin with rows and folds. The folds are covered inside with numerous fine, sclerotized spines. The Ds runs at the distal part in the bursa. This part is characterized by a huge swelling which is strictly oriented ventrally (Fig. 40). This is very similar to *P. marmorea* but the swelling is broader and bigger. The signum is consisting of a small, concentrically grouped bundle of sclerotized teeth and is laying on the proximal end of the bursa bag (Fig. 41). The proximal part of the bursa is oriented longitudinally in the abdominal lumen. Relations: Aa : Ap = 0.5; length of papillae : gl = 0.13.

This is a true sibling species to *P. marmorea*.

***Perciana taiwana* WILEMAN, 1911**

(Figs. 2, 12-13, 50-64)

Perciana taiwana WILEMAN, 1911: 175.

Type material:

Lectotype (Fig. 12): ♂, [Taiwan] „Rantaizan, Formosa. 7,500 ft. 13.V.1909. A.E.Wileman. \ Type \ Wileman Coll. B.M. 1929-261. \ Noctuidae Brit. Mus. slide No. 16428 ♂ \ *Perciana taiwana* sp.n. Type ♂, (BMNH).

Paralectotype (Fig.13): ♀, [Taiwan] „Rantaizan, Formosa. 7,500 ft. 14.V.1909. A.E.Wileman. \ Allo-type \ Wileman Coll. B.M. 1929-261. \ Noctuidae Brit. Mus. slide No. 16430 ♂ \ *Perciana taiwana* sp.n. Type ♀, (BMNH).

Additional material:

The original description definitely mentions one ♂ and one ♀ as types, so the following specimens are additional material: 3 ♂ ♂, 1 ♀, same locality as types with the following dates: 4.V.1909 (♂), 7.V.1909 (♀), 11.V.1909 (♂), 12.V.1909 (♂) (BMNH).

Description

Head: Similar to *P. marmorea* but the head ivory coloured in the middle, surrounded by reddish brown areas with dark scales. Labial palps ivory coloured and reddish brown, II and III reddish brown with dark brown scales on the outer margin. Antennae with long ciliae in the ♂, shortly ciliate in the ♀.

Thorax and abdomen (Figs. 50-53): Reddish brown, speckled with ivory coloured and black scales. Dark brown and prominent tufts on the first three abdominal segments. St2 wears a broad and bar-shaped fold in the ♂ (Fig. 52).

Wings: Wingspan = 26 - 31 mm; l : b = 1.78 - 1.94. Forewings with outcurved outer margin and contrasting wing pattern. Ground colours are greyish green and brown. Costa and inner half of forewing greyish, speckled with olive brown scales. CF prominent, big, white. Base of the forewings marked with a small dark dot. Posterior margin in the middle with a dark reddish brown, rhombus like patch. Q2 insignificant. RM very small, oval, white with dark margin. NM prominent, formed like a brown ring with a reddish brown and olive centre. Q3 distinct, dark reddish brown, with a dark shadow near the costa. Subterminal area of the forewing olive brown with fine pointed, dark PF. Hindwings whitish, intensively suffused with brown scales. Posterior margin exhibits a dark area marking the beginning of the postmedian line.

♂-genitalia (Figs. 54-60): This species does not have such a complex juxta as the previous species have, ventrally it is not so heavily sclerotized, the transtilla forms two deltoid-shaped plates and the anellus is a spinose and granular skin (Figs. 56). The valves have typically both types of process: First a sacculus process which is formed like a slender, curved horn (Fig. 59) and second a process of the central part of the valve (ampulla) which is formed as a strongly curved (nearly kneed) slender horn which clearly extends the distal end of the valve and is curved inwards (Fig. 58). This latter process wears parallel to its middle a row of tubercles with bristles which is not so significant than in the previous two species. The valve has a slight indentation on the distal margin which gives the distal margin an oblique shape. The uncus is a smoothly curved hook with a fine point and very slender (Fig. 57). The anal tube is skinny and insignificant. The tegumen (te in fig. 56) is normally formed, slightly enlarged proximally and densely covered with hair-like scales on the sides. A sort of teguminal-ear (a feature which is found in the

Rhynchina GUENÉE, 1854 complex) is indicated more significant than in other species (Fig. 56). The sacculus ends in a small, sclerotized and hook-shaped clavus. The vinculum is cone-shaped, rounded and extends much more proximally than in the previous species. The aed is strong and of the *Hypena*-type. It is slightly kneed and wears a spinose cuff at the distal end (Fig. 55). The aed is broad and stout as in *Perciana gretae* sp.n.. The vesica shows several areas of sclerotized, fine cornuti and wears one big cornutus which is long and pike-shaped (Fig. 60). The coecum is rounded and broad in relation to *P. marmorea*. Relations: $ul : ub = 10$; $vl : vb = 4$; $vl : hm = 0.93$; $ael : aeb = 4.2$.

♀-genitalia (Figs. 61-64): The $gl = 6$ mm. Between the papillae anales ventrally a "rugged" skin is situated (Fig. 62). Papillae anales rounded and similar to those of *P. gretae* sp.n. but broader (Fig. 62). Aa very short. The ♀-genitalia have a significant sterigma: Ostium ventrally with a heavily sclerotized, W-shaped bag (Lamella antevaginalis) (Fig. 63) and dorsally with symmetric, sclerotized broad and rounded plates (Lamella postvaginalis). The bursa is built of strong and rough skin with rows and folds. The folds are covered inside with numerous fine, sclerotized spines. The Ds runs at the lateral part in a cervix bursae. The characteristic ventral swelling of the genus *Perciana* is present on the other side (Fig. 61). The signum is consisting of a concentrically grouped bundle of sclerotized teeth and is laying laterally on the proximal end of the bursa (Fig. 64). This area of spines is indentated in the middle. The proximal part of the bursa is oriented longitudinally in the abdominal lumen as in *Perciana gretae* sp.n.. Relations: $Aa : Ap = 0.35$; length of papillae : $gl = 0.09$.

***Perciana flavifusa* HAMPSON, 1894 nom.dub.**

(Fig. 14)

In the BMNH there was found only a painting illustrating the species. The holotype from Manipur [Burma] could not be located. According to POOLE (1989) the holotype should be in the BMNH. It could well be that the taxon represents the same species as *P. taiwana*. This assumption can be verified when the holotype is found.

***Perciana dentatus* (HAMPSON, 1894)**

(Figs. 4-5, 15-16, 65-69)

Rhynchopalpus dentatus HAMPSON, 1894: 143.

Type material:

Lectotype (Fig. 16): ♀, [India] „Dalhousie. 92-98 Harford Coll. 5/91 \ Type \ Noctuidae Brit. Mus. slide No. 16431 ♀ \ *Rhynchopalpus dentatus* - Hmps. type ♀, (BMNH).

Paralectotypes (Fig. 15): 2 ♀♀, [India] „Dalhousie 92-98 Harford Coll. 5/91 \ *Perciana dentata* Hmps. dt. L \ PARALECTOTYPE *Perciana dentatus* (HMPS., 1894) det. M. Lödl" (BMNH).

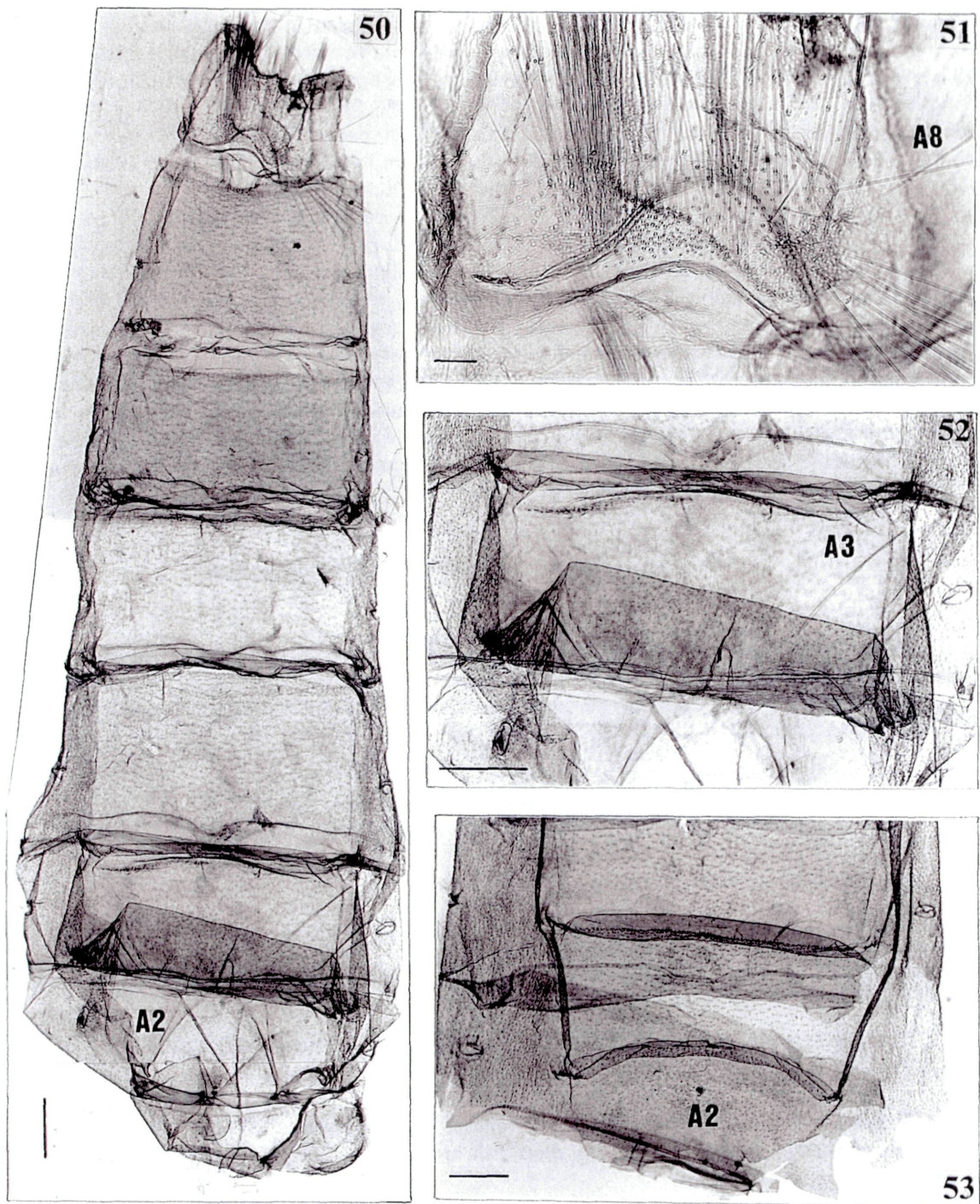
The species was combined with the genus *Perciana* for the first time by POOLE (1989).

Description

Head: Antennae dark brown, very shortly ciliate. Head ivory coloured or whitish, dark brown between the antennae. Labial palps relatively short, pale brown, on the inner side ivory coloured. II and III speckled with some dark scales.

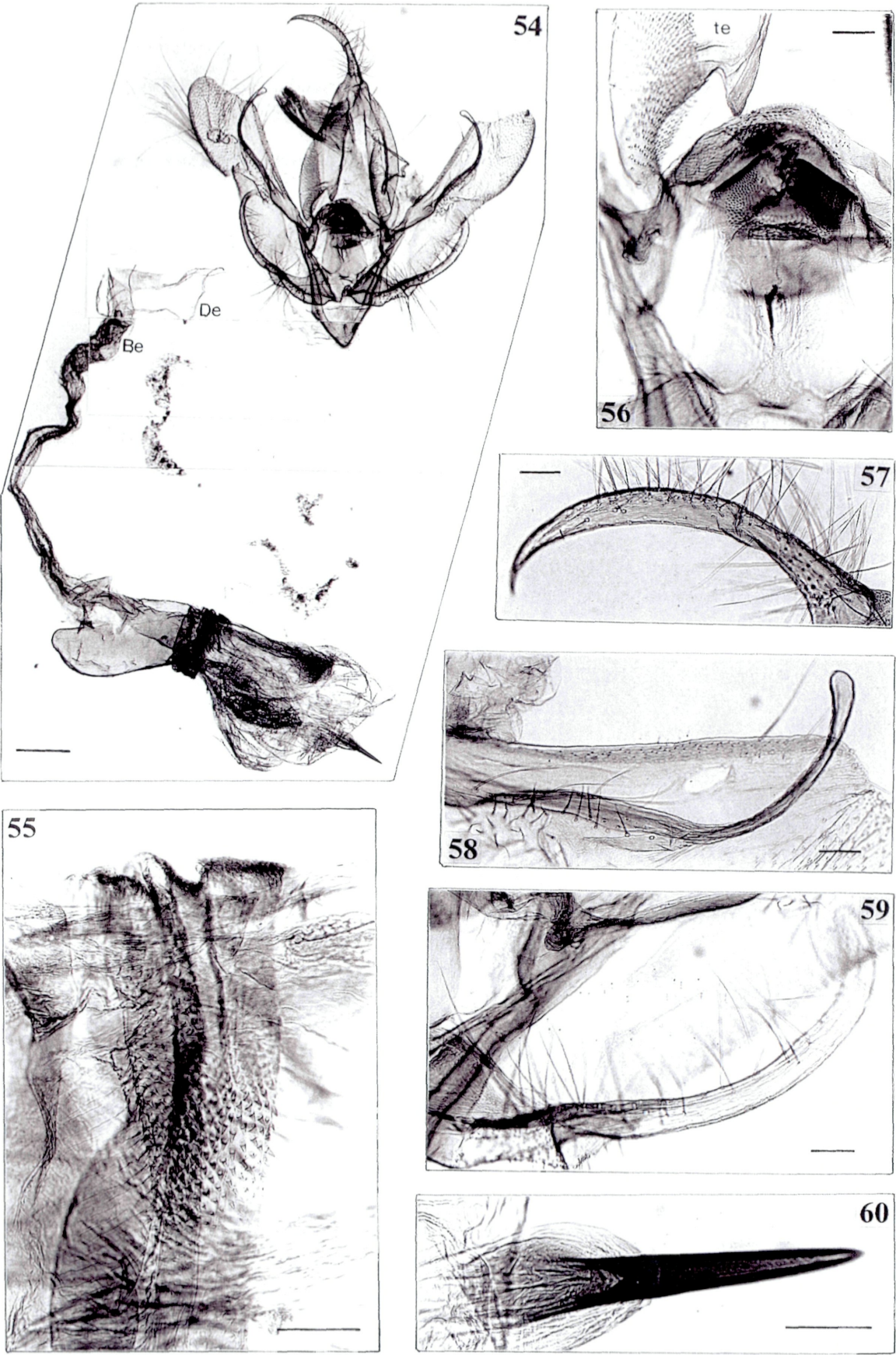
Thorax and abdomen (Fig. 67): Ivory coloured and whitish, abdomen beige. All tergites have a row of dark brown scales in the middle. All sternites of the ♀ wear bar-shaped folds on the borders of the segments (fig. 67). These folds are bar-shaped and of different length.

Wings: Wingspan = 27 - 30 mm; $l : b = 1.90 - 1.93$. Forewings with normally rounded outer margin and highly contrasting wing pattern. Ground colours are dark blackish brown and white and greyish brown. CF white. Base of the forewings greyish brown. ZSF prominent dark brown marked with an inner and outer blackish line. The inner line strictly concave. The outer line zigzagged with a fine pointed tooth at the end of the cell. RM circular, white without a dark margin. NM prominent, oval and white, without a dark margin. Subterminal area of the forewing with zigzagged dark brown shadows and a whitish apex and a whitish tornus. Terminal line and fringe dark brown.



Figs. 50-53 Abdomina of *Perciana taiwana* WILEMAN, 1911:

Fig. 50: Lectotype, ♂. Noctuidae Brit. Mus. slide No. 16428. Abdomen, total. Scale = 0.5 mm.-
Fig. 51: dto.- A8 with pab. Scale = 0.1.- **Fig. 52:** dto.- Fold on St2/St3. Scale = 0.5.- **Fig. 53:**
 Paralectotype, ♀. Noctuidae Brit. Mus. slide No. 16430. A2/A3. Scale = 0.5 mm.



Figs. 54-60 *Perciana taiwana* WILEMAN, 1911, lectotype, ♂-genitalia. Noctuidae Brit. Mus. slide No. 16428 (previous page / vorige Seite):

Fig. 54: Genitalia, total (De = Ductus ejaculatorius; Be = Bulbus ejaculatorius). Scale = 0.5 mm.

Fig. 55: Spinose cuff on aedeagus. Scale = 0.1 mm.

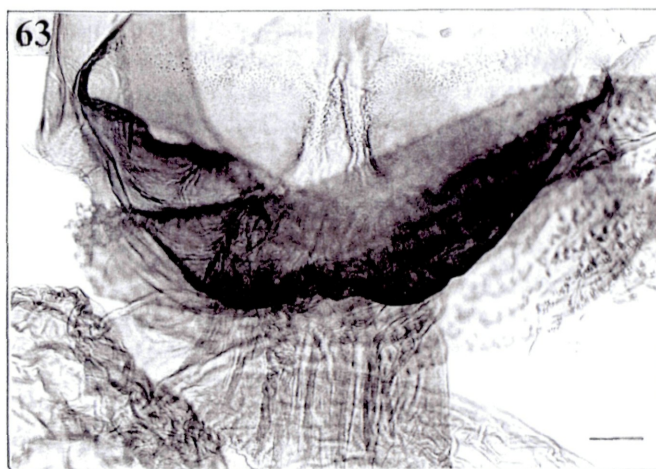
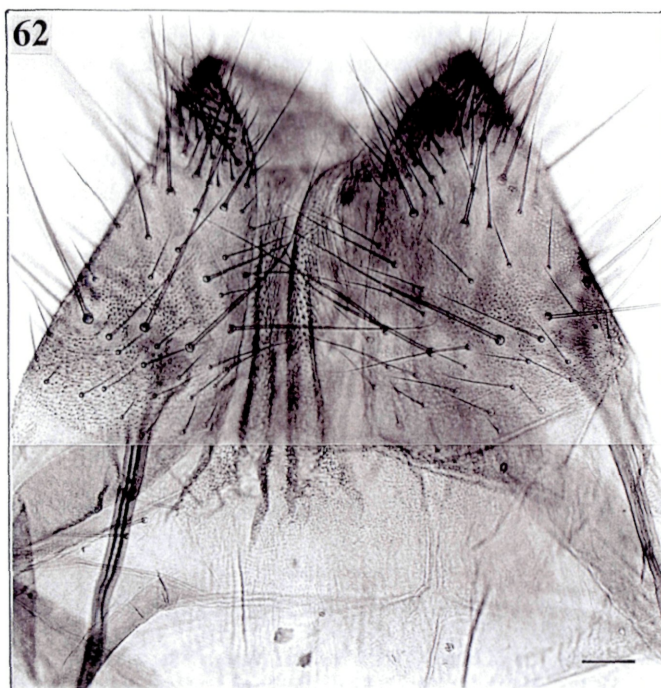
Fig. 56: Tegumen (te) and anellus. Scale = 0.1 mm.

Fig. 57: Uncus. Scale = 0.1 mm.

Fig. 58: Process of valve. Scale = 0.1 mm.

Fig. 59: Process of sacculus. Scale = 0.1 mm.

Fig. 60: Cornutus. Scale = 0.1 mm.



Figs. 61-64 *Perciana taiwana*
WILEMAN, 1911, Paralectotype
♀. Noctuidae Brit. Mus.slide No.
16430:

Fig. 61: Genitalia, total. Scale =
0.5 mm.- **Fig. 62:** Papillae anales.
Scale = 0.1 mm.- **Fig. 63:**
Sterigma. Scale = 0.1 mm.- **Fig.**
64: Signum. Scale = 0.1 mm.

Hindwings whitish, suffused with brown scales, especially in the postmedial area. Posterior margin exhibits a dark area marking the beginning of the postmedian line.

♀-genitalia (Figs. 65-66, 68-69): The gl = 5 mm, so it is the shortest of the ♀ *Perciana* genitalia. Between the papillae anales ventrally the "rugged" skin is weak and not so significant than in the other species (Fig. 66). Papillae anales rounded and similar to those of *P. marmorea* (Fig. 66). Aa extremely short (Aa in fig. 69). The ♀-genitalia have a significant sterigma: The ostium runs into a relatively long sclerotized Db and exhibits far proximally a deltoid-shaped fold (Lamella antevaginalis) (Fig. 69). The bursa does not wear such roughly skinned, rugged folds than in the other species, but the skin of the bursa is covered inside with little spines extensively (Fig. 68). The Ds runs in the distal part in a ventral swelling of the bursa (Fig. 65). The signum is consisting of a concentrically grouped bundle of sclerotized teeth and is laying in the middle of the bursa (Fig. 68). The proximal part of the bursa is oriented longitudinally in the abdominal lumen as in *Perciana gretae* sp.n.. Relations: Aa : Ap = 0.19; length of papillae : gl = 0.14.

***Perciana bambusalis* (LEECH, 1889) comb.n.**

(Figs. 11, 70-72)

Hypoepa [sic] *bambusalis* LEECH, 1889: 63, pl.2, fig. 2.

Type material:

Holotype (Fig.): ♂ [China] „Type \ Foochau, April, 1886. Leech. \ Leech Coll. 1900-64 \ *Hypoepa* [sic]. *bambusalis* type ♂ \ Noctuidae Brit. Mus. slide No. 16041 ♂., (BMNH).

Additional material:

P. bambusalis first was described in the genus „*Hypoepa*“ which obviously is a misspelling of *Hipoepa* WALKER, [1859] 1858. Therefore the author follows the opinion of OWADA (1987) to treat „*Hypoepa*“ as a misspelling and not as a validly described name of the genus group as NYE (1975) did. *Hipoepa* is a typical genus of the subfamily Herminiinae. „*Hypoepa*“ was erroneously treated as a synonym of the genus *Hypena* SCHRANK, 1802 by POOLE (1989: 541).

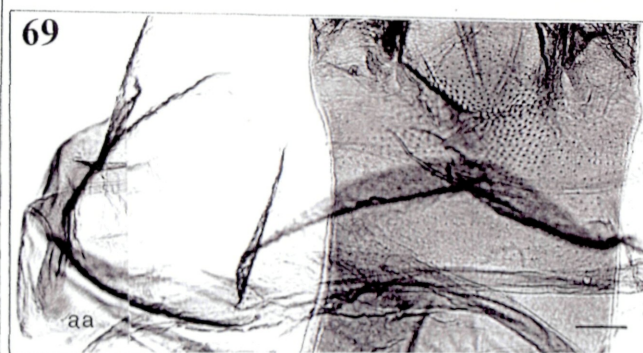
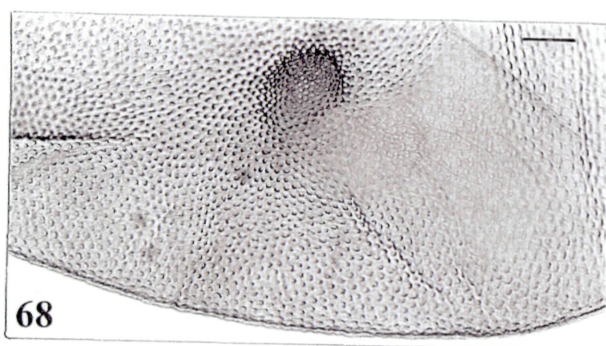
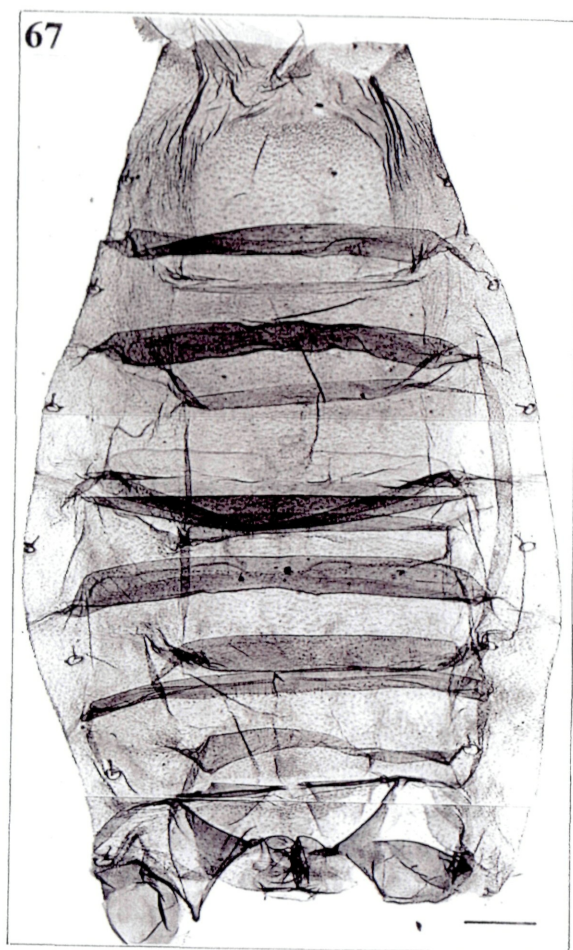
Description

Head: Reddish brown, labial palps reddish brown or dark brown, slightly curved and turned upright. Antennae reddish brown, with long ciliae.

Thorax and abdomen (Fig. 70-71): Thorax reddish brown, abdomen dark brown with a small insignificant tuft on the first segment. Abdominal sternites without significant folds on the segmental borders. St8 with a small and insignificant pab, T8 with a fold in the middle with broad, triangulate base at the cephal end (Fig. 71).

Wings: Flspw = 28 mm; l : b = 1.82. From all *Perciana* species the most aberrant forewing colour. The ground colour consists of different shades of brown and greyish brown. Forewings with outcurved outer margin and a fine pointed apex. The costal margin is brown and not speckled. Q2 is insignificant, just a dark greyish brown shadow. RM and NM are insignificant. Q3 is a waved line, relatively far in the middle of the forewing, dark brown with a pale outer margin. Am area is marked with a whitish grey colour. Subterminal area with a waved and zigzagged dark brown shadow. No PF and W dots are found. The adterminal area is light reddish brown and expressively strong in the outcurved area. The terminal line is dark brown the fringe greyish brown. Hindwings pale greyish brown with pale greyish brown fringe.

♂-genitalia (Figs. 72): The features of the ♂-genitalia are the most distinct within the genus *Perciana*. This species does not have such a complex juxta as *P. marmorea* but the juxta is sclerotized and formed like a „V“ turned upside down. The anellus is a spinose and granular skin. The valves have typically both types of processi: First a sacculus process which is formed like a slender horn with claws along the inner margin (Fig. 72). This horn is nearly as long as the length of the valve. Second is a process of the central part of the valve (ampulla) which is sitting on an sclerotized longitudinal bar with bristles and exhibiting a short horn in the inner lumen of the genitalia corpus. The valve has a deep indentation on the distal margin which divides the distal margin into a skinny, dorsal lobe and a ventral lobe which is densely covered with hair-like scales.



Figs. 65-69 *Perciana dentatus* (HAMPSON, 1894), lectotype ♀. Noctuidae Brit. Mus. slide No. 16431 (previous page / vorige Seite):

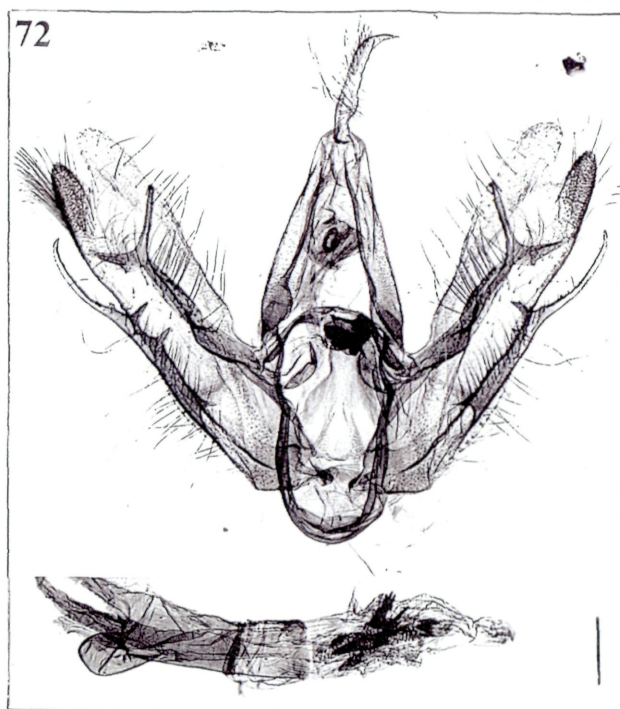
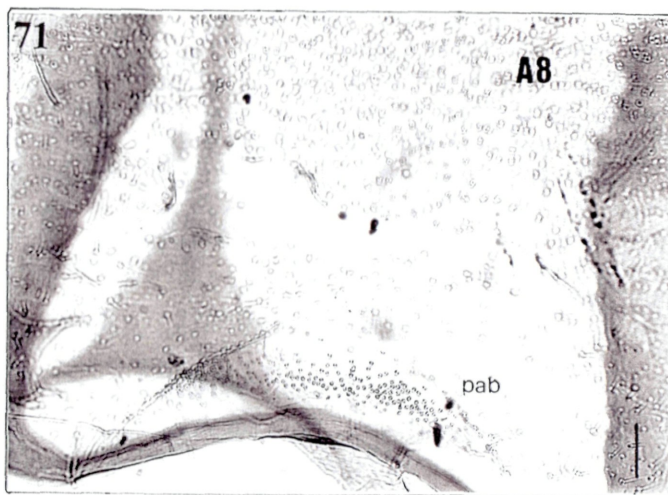
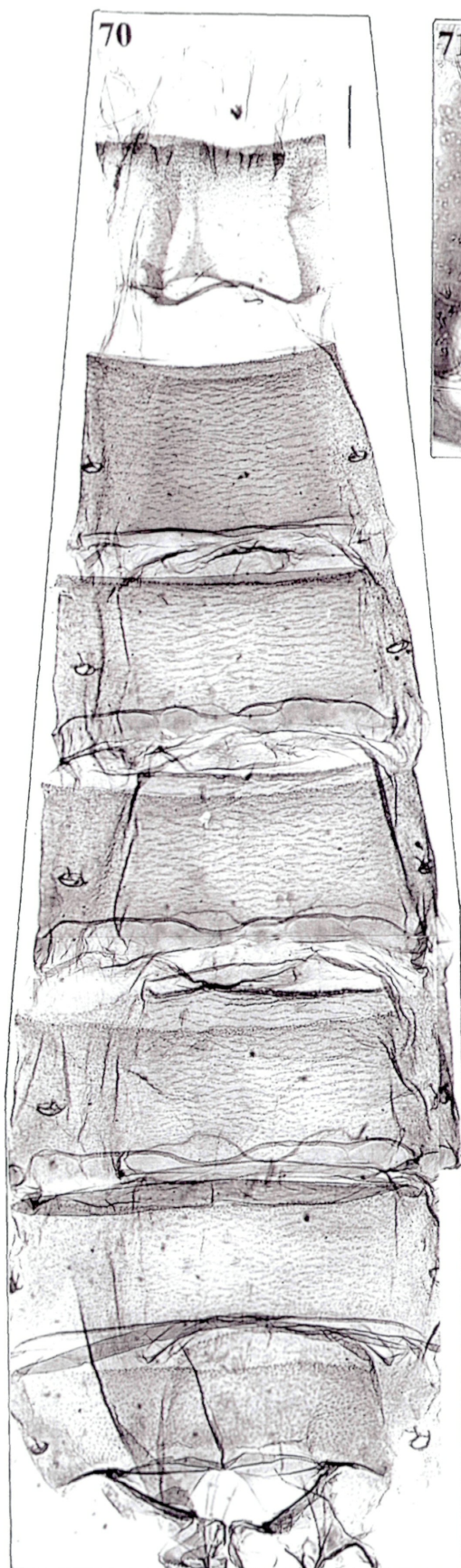
Fig. 65: Genitalia, total. Scale = 0.5 mm.

Fig. 66: Papillae anales (ap = apophyses posteriores). Scale = 0.1 mm.

Fig. 67: Abdomen (ventral view). Scale = 0.5 mm.

Fig. 68: Signum. Scale = 0.1 mm.

Fig. 69: Apophyses anteriores (aa) and sterigma (deltoid shaped lamella antevaginalis). Scale = 0.1 mm.



Figs. 70-72 *Perciana bambusalis* (LEECH, 1889), holotype ♂. Noctuidae Brit. Mus. slide No. 16041:

Fig. 70: Abdomen, total. Scale = 0.5 mm.-

Fig. 71: A8 with small pab. Scale = 0.1 mm.-

Fig. 72: Genitalia, total. Scale = 0.5 mm.

The uncus is a smoothly curved, nearly straight hook with a fine point and an smooth extension on the ventral surface. The anal tube is skinny and insignificant. The tegumen is normally formed, slightly enlarged proximally and densely covered with hair-like scales on the sides and especially on the proximal base. A sort of teguminal-ear (a feature which is found in the *Rhynchina* GUENÉE, 1854 complex) is indicated. The sacculus ends in a small, sclerotized and knob-shaped clavus. The vinculum is broad and rounded and does not extend very much proximally. The aed is relatively slender and straight. It is slightly kneed in the coecum area and wears a spinose cuff at the distal third (Fig. 72). The vesica shows several areas of sclerotized, fine cornuti and wears a bundle of heavily sclerotized cornuti, which are pike-shaped and not very long. The coecum is rounded. Relations: $vl : vb = 4.15$; $vl : hm = 1.05$; $ael : aeb = 4.5$.

***Perciana meeki* BETHUNE-BAKER, 1906 nom.dub.**

Perciana meeki BETHUNE-BAKER, 1906: 206.

The holotype from Papua New Guinea (Owgarra) could not be located in the BMNH.

Acknowledgements

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