

Redescriptions of some TURNER-types of Australian *Hypena* SCHRANK, 1802 species (Lepidoptera: Noctuidae: Hypeninae)

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Abstract

Redescriptions and illustrations of some *Hypena* SCHRANK, 1802 species from Australia described by A.J. Turner are given. Lectotypes are designated for the following species: *Hypena pelodes* TURNER, 1932, *Hypena euryzostra* TURNER, 1932, *Hypena orthographa* TURNER, 1932.

Zusammenfassung

Wiederbeschreibungen und Abbildungen einiger von A.J. Turner beschriebenen Arten der Gattung *Hypena* SCHRANK, 1802 werden vorgelegt. Lectotypus-Designierungen folgender Arten werden vorgenommen: *Hypena pelodes* TURNER, 1932, *Hypena euryzostra* TURNER, 1932, *Hypena orthographa* TURNER, 1932.

Key words: Australia, *Hypena*, Hypeninae, lectotype designation, Noctuidae, redescription.

Introduction

The Ethiopian and Madagascan species of the genus *Hypena* SCHRANK, 1802 have been revised by LÖDL (1994, 1995). The revision of the Indo-Australian species is in preparation (LÖDL, in preparation). Aim of this paper is the redescription, lectotype designation and illustration of some *Hypena*-species from Australia described by TURNER (1932).

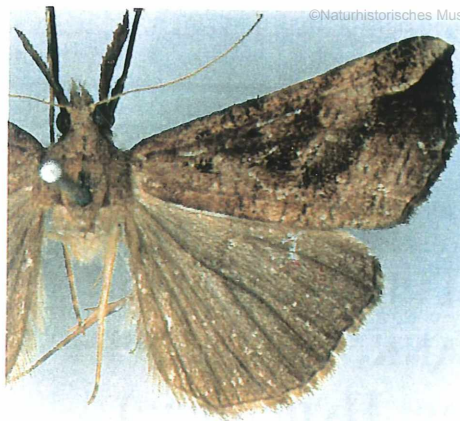
The author is very much indebted to the colleagues from the ANIC (= Australian National Insect Collection C.S.I.R.O., Canberra) for the loan of the type-specimens. Special thanks are due to Dr. Marianne Horak (ANIC) for the organisation and Ted Edwards (ANIC) for checking the type-specimens.

The following species are involved in the presented investigation:

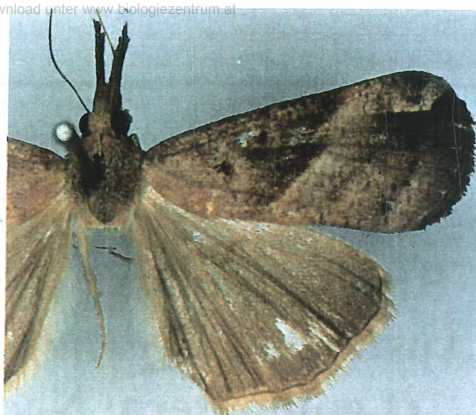
Hypena pelodes TURNER, 1932

Hypena euryzostra TURNER, 1932

Hypena orthographa TURNER, 1932

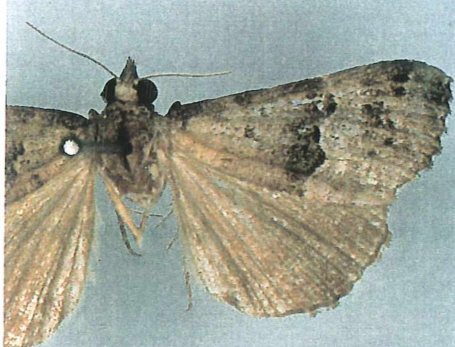


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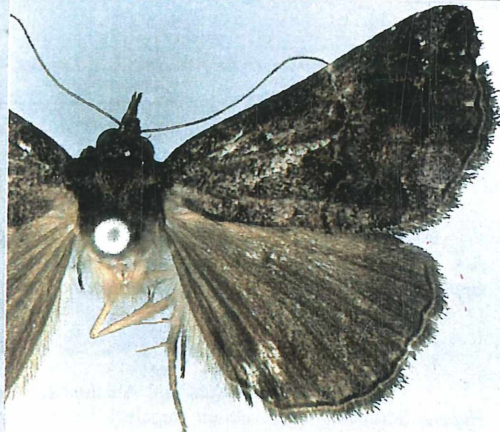


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Millar N.Q.26-9-30 <i>Hypera</i> <i>pelodora</i> Turn. designated by	LECTOTYPE <i>Hypera</i> <i>pelodora</i> Turn. designated by	NHMW gen. praep. M. Lödl no. 647 ♂	AUST. NAT. INS. COLL.	National Pk. Q. 47,5000 ft 21-12-21 AUST. NAT. INS. COLL.	PARALECTOTYPE <i>Hypera</i> <i>pelodora</i> Turn. designated by 1932	NHMW gen. praep. M. Lödl no. 648 ♀
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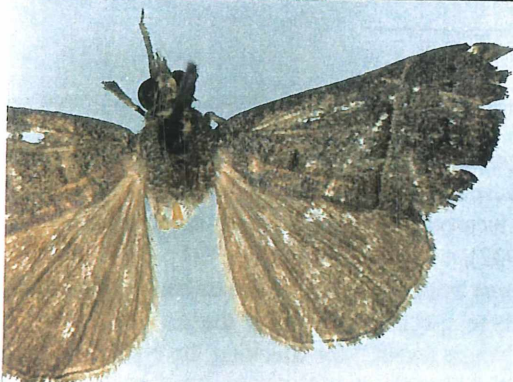


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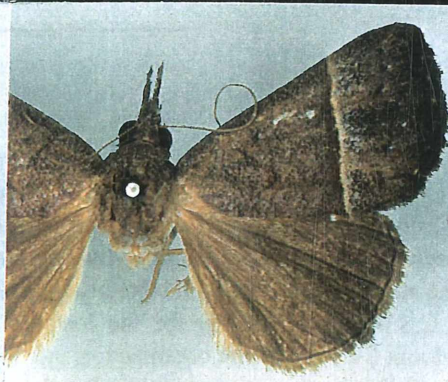


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Dunk I. N.Q.25-5-28 <i>Hypera</i> <i>euryzostra</i> Turn. designated by	LECTOTYPE <i>Hypera</i> <i>euryzostra</i> Turn. designated by	NHMW gen. praep. M. Lödl no. 645 ♂	AUST. NAT. INS. COLL.	19.00S 146.12E Paluma, QLD 900 m 5 Apr. 1979 D.W. Frith	NHMW gen. praep. M. Lödl no. 646 ♂	AUST. NAT. INS. COLL.
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Kiranda N.Q.30-8-29 <i>Hypera</i> <i>orthographa</i> Turn. designated by	LECTOTYPE <i>Hypera</i> <i>orthographa</i> Turn. designated by	NHMW gen. praep. M. Lödl no. 637 ♂	AUST. NAT. INS. COLL.	Cooktown 9.5:22	PARALECTOTYPE <i>Hypera</i> <i>orthographa</i> Turn. designated by 1932	NHMW gen. praep. M. Lödl no. 644 ♀	AUST. NAT. INS. COLL.
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Figs. 1-6 *Hypena*-species described by TURNER (1932) (previous page/ vorige Seite):

Fig. 1: *H. pelodes*, lectotype ♂.- **Fig. 2:** *H. pelodes*, paralectotype ♀.- **Fig. 3:** [*H.*] *euryzostra*, lectotype ♂.- **Fig. 4:** [*H.*] *euryzostra* ?- **Fig. 5:** *H. orthographa*, lectotype ♂.- **Fig. 6:** *H. orthographa*, paralectotype ♀. All specimens in ANIC.

***Hypena (Hypena) pelodes* TURNER, 1932** (Figs. 1-2, 7-13)

Hypena pelodes TURNER, 1932: 186.

Type material:

Lectotype (by present designation): ♂, [Australia] „Hypena TYPE pelodes Turn. \ LECTOTYPE Hypena pelodes Turn. 1932 designated by M.Lödl \ Millaa N.Q. 26-9-30 \ NHMW gen.praep. M. Lödl no. 647 ♂ \ AUST. NAT. INS. COLL.“ (ANIC) (Fig. 1).

Paralectotype: 1 ♀, [Australia] „PARALECTOTYPE Hypena pelodes Turn. 1932 designated by \ National Pk. Q. 47, 3000 ft 21-12-21 \ NHMW gen.praep. M. Lödl no. 648 ♀ \ AUST. NAT. INS. COLL.“ (Fig. 2); specimens not examined: 1 ♀ National Park, Q. 47, 3000 ft., 23.XII.1921; 1 ♀, Montville, Q., IX.1920; 1 ♀, Evelyn Scrub [= Ravenswood; Ted Edwards i.l. (ANIC)] (ANIC). According to the original publication one syntype is not accounted for (Ted Edwards i.l.).

Description:

Head: Reddish brown with prominent frontal tuft. The labial palps very long with a short third joint. The second joint concavely curved from the underside. Labial palps reddish brown.

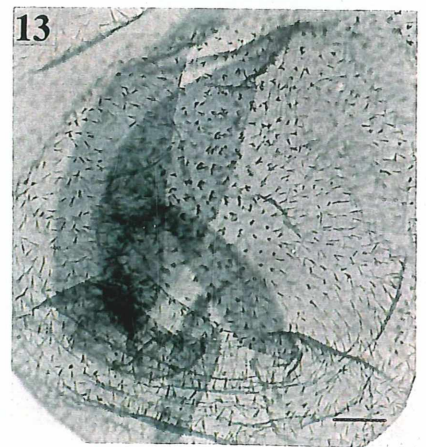
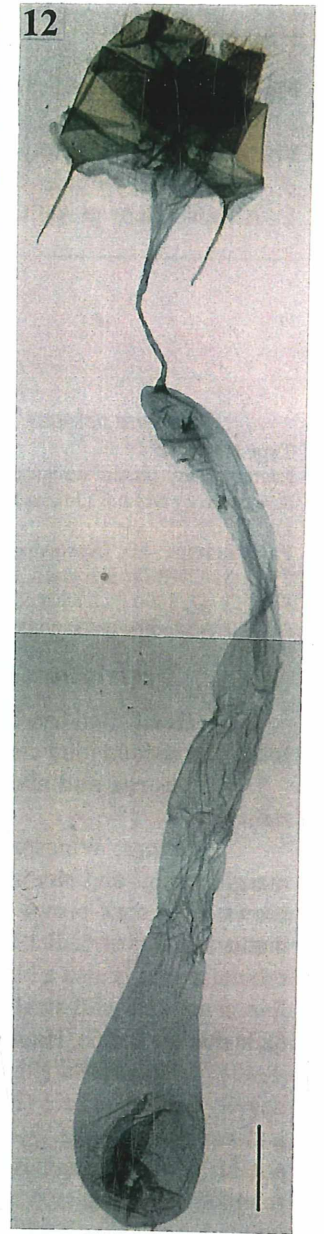
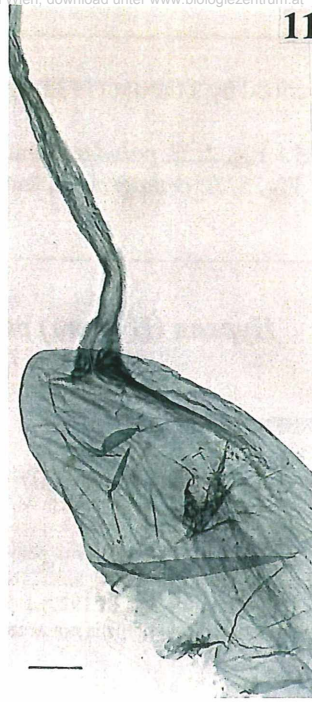
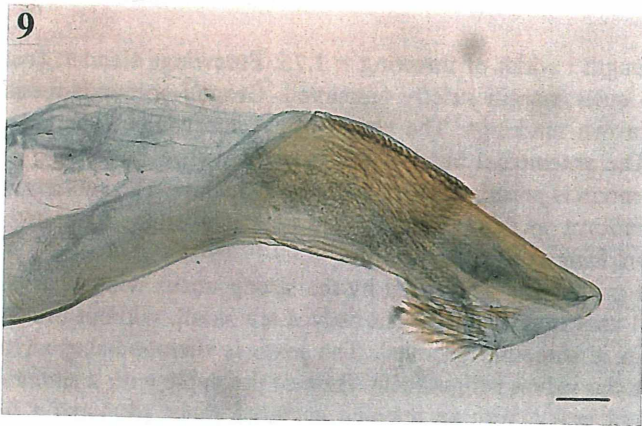
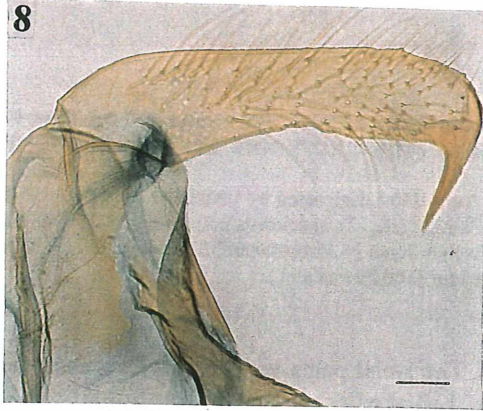
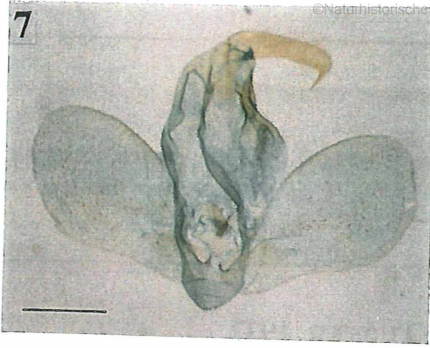
Thorax and abdomen: Thorax and abdomen reddish brown, the scales of the thorax with pale, light tips.

Wings: Wingspan = 30 - 34 mm; length width of forewing = 1.75. Forewings slender, costal margin straight and sharp pointed apex. The outer margin strictly outcurved. Ground colour is reddish brown with dark brown and dark reddish brown markings. The centre of the forewings is darkened, median and postmedial band are oblique. The antemedial band is just marked with a black dot. The orbicular spot is also a black dot. The apical moon is prominent with a big dark shadow. The subterminal line is marked with small black dots. The reniform spot is an insignificant pale area, in the male with a dark shadow inside. Hindwings greyish brown, fringe yellowish brown.

♂-genitalia (Figs. 7-10): The male genitalia is dominated by the strong uncus with recurvate, heavily sclerotized tip (Fig. 8). The scaphial area is sclerotized. The valves are small, without process and ear-shaped (Fig. 7). The ventral margin is smoothly grooved. The juxta is diamond-shaped, the anellus wears fine spines. Half-moon disk on the valves insignificant. Base of the valve with a smoothly rounded lobe (Fig. 10). Aedeagus slender, not bulky, with an opening angle of about 140° and a fine pointed, nose-like tip. Shark-teeth and aedeagus-cuff well represented (Fig. 9).

Figs. 7-13 Genitalia of *Hypena*-species described by TURNER (1932) (next page/ nächste Seite):

Fig. 7: *H. pelodes*, lectotype ♂, NHMW gen. praep. M. Lödl no. 647. Genitalia without aedeagus. Scale = 0.5 mm.- **Fig. 8:** dto.- Uncus. Scale = 0.1 mm.- **Fig. 9:** dto.- Aedeagus. Scale = 0.1 mm. - **Fig. 10:** dto.- Base of left valve and juxta/anellus. Scale = 0.1 mm.- **Fig.11:** *H.pelodes*, paralectotype ♀, NHMW gen. praep. M. Lödl no. 648. Ductus bursae and corpus bursae. Scale = 0.1 mm - **Fig.12:** dto.- Genitalia, total. Scale = 0.5 mm.- **Fig. 13:** dto.- Spines of bursa. Scale = 0.1 mm.



♀-genitalia (Figs. 11-13): The total length of the genitalia is more than 7 mm. The genitalia is thin and slender, particularly the ductus bursae (Figs. 11-12). The bursa is very long and flabby and forms at the proximal end a slender sack with fine, needle-like spines (Fig. 13). The ostium is skinny and v-shaped. The apophyses anteriores and apophyses posteriores are of the same length, measuring about 0.5 mm.

Within the subgenus *Hypena* SCHRANK, 1802 the species belongs to the *Hypena varialis* WALKER, [1866] 1865 species-group (LÖDL 1998) which is defined by a very strong, recurvate hook of the male uncus and a very thin and fragile ductus bursae in the female. In the Ethiopian region the species group contains the following species: *H. varialis*, *H. kallipygae* LÖDL, 1994 and *H. viridifascia* FLETCHER, 1963 (LÖDL 1994, 1998).

[*Hypena*] *euryzostra* TURNER, 1932 (Figs. 3-4, 14-16, 19-20)

Hypena euryzostra TURNER, 1932: 186.

Type material:

Lectotype (by present designation): ♂, [Australia] „Hypena TYPE euryzostra Turn. \ LECTOTYPE Hypena euryzostra Turn. 1932 designated by M. Lödl \ Dunk I., N.Q 25-5-28 \ NHMW gen.praep. M. Lödl no. 645 ♂ \ AUST. NAT. INS. COLL.“ (ANIC) (Fig. 3).

Paralectotype: 1 ♂, [Australia] Magnetic Island, N.Q. 9.IV.1911 [the original publication states „July“] (ANIC) (specimen not examined).

Additional material: 1 ♂, [Australia] „19.00S 146. 12E Paluma, QLD 900 m, 5 Apr. 1979 D.W. Frith \ NHMW gen.praep. M. Lödl no. 646 ♂ \ AUST. NAT. INS. COLL.“ (ANIC) (Fig. 4).

Description:

Head: The lectotype is worn, the labial palps are missing. The secondary specimen is dark brown and has short, obliquely porrect labial palps. The eyes are big.

Thorax and abdomen: Thorax worn in the lectotype, broad and densely covered with dark brown scales in the secondary specimen, which does not belong to the syntype series.

Wings: Wingspan = 29 - 32 mm; length width of forewing = 1.4 – 1.47. Forewings concave along the costal margin, very much outcurved along the outer margin. Forewings dark brown, pale in the lectotype (worn specimen). Predominant feature is a postmedial band standing far in the middle and including the reniform spot. This band is waved and the edges of the waves are filled with black along the inner margin. The band is pale on the outer margin. The apical moon is marked with two strong, black dots with white tips on the outer margin. The subterminal line is marked by blackish dots. The margin is dark brown. The hindwings are dark brown, the adterminal line is blackish brown.

♂-genitalia (Figs. 14-16, 19-20): Figs. 14-16 illustrate the specimen of unsure relationship. Figs. 19-20 illustrate the lectotype. The typical genitalia does not exhibit the elephant-ear-like valves in the same way as the secondary specimen does. So the relationship remains unclear. The uncus is short and smoothly curved, fine pointed and relatively flat.

Figs. 14-18 Genitalia of *Hypena*-species described by TURNER (1932) (next page/ nächste Seite):

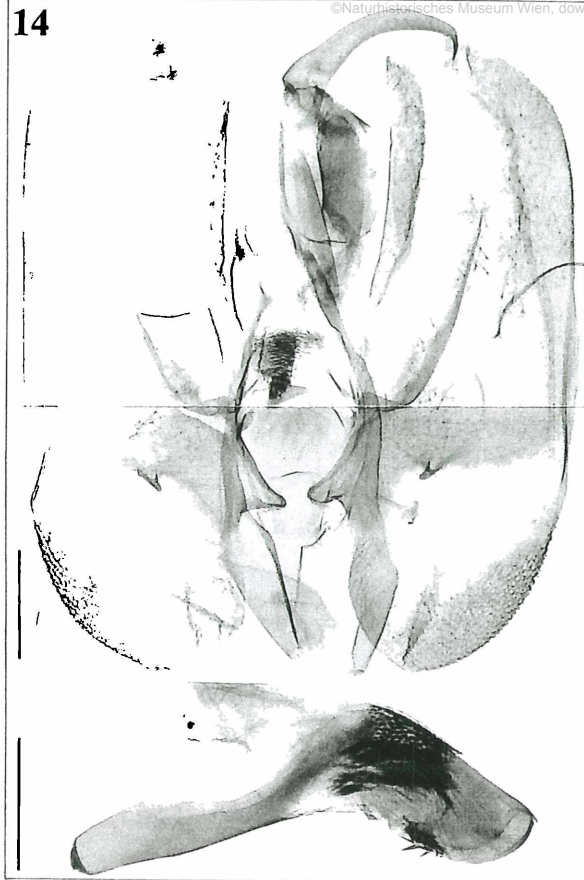
Fig. 14: [*H.*] *euryzostra* (?) ♂, NHMW gen. praep. M. Lödl no. 646. Genitalia, total. Scale = 0.5 mm.-

Fig. 15: dto.- Uncus. Scale = 0.1 mm.- **Fig. 16:** dto.- Clavus and base of right valve. Scale = 0.1 mm. -

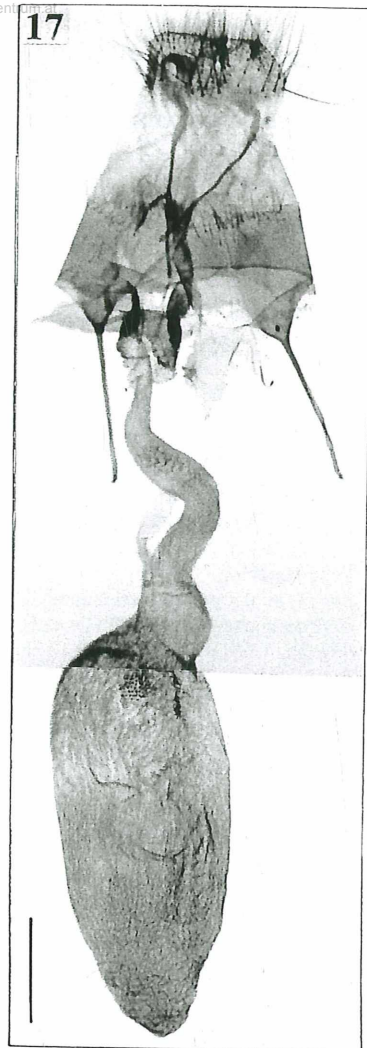
Fig. 17: *H. orthographa*, paralectotype ♀, NHMW gen. praep. M. Lödl no. 644. Scale = 0.5 mm.-

Fig.18: dto.- Ductus bursae and caudal part of bursa (Ds = ductus seminalis; S = signum). Scale = 0.1 mm.

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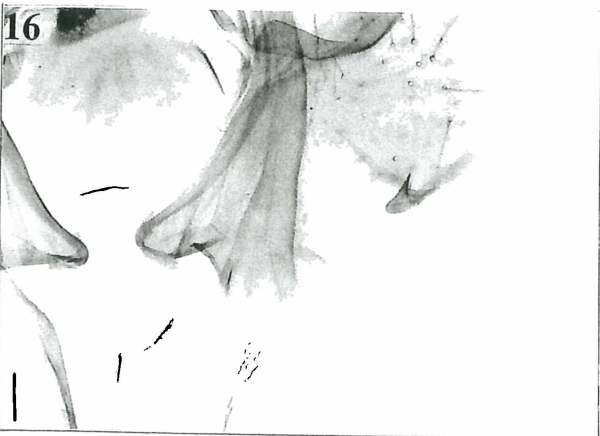
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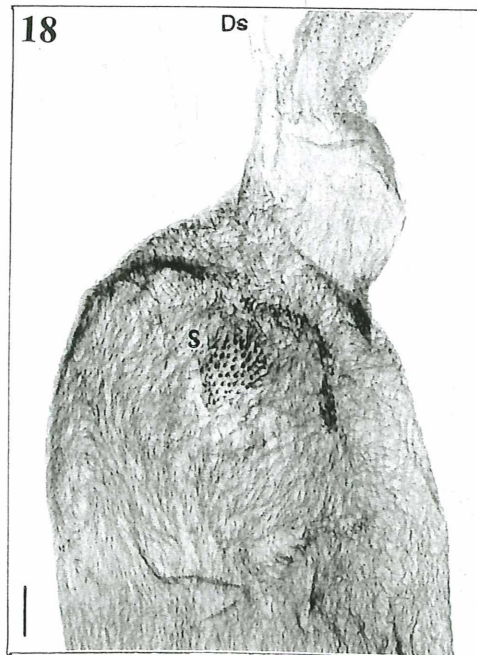
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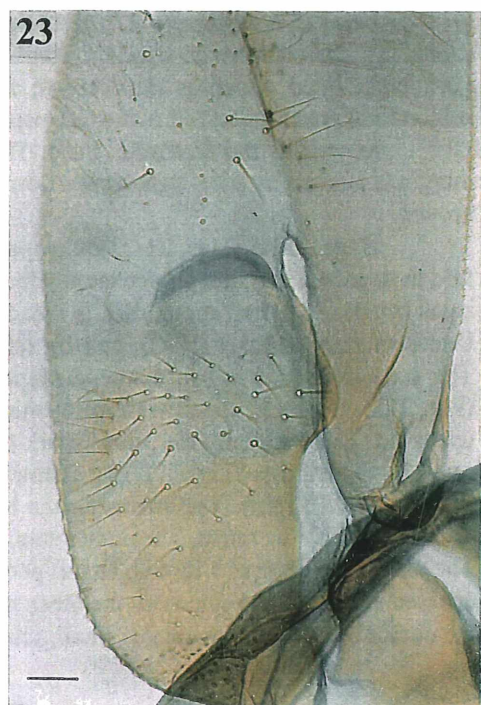
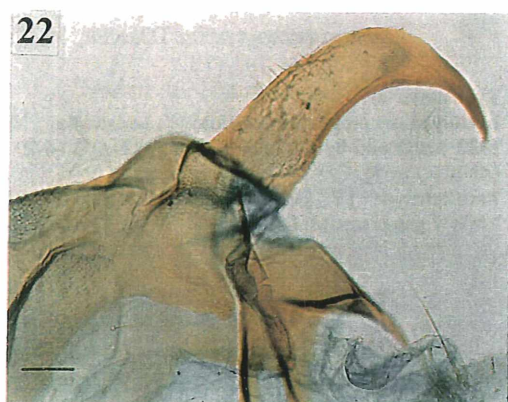
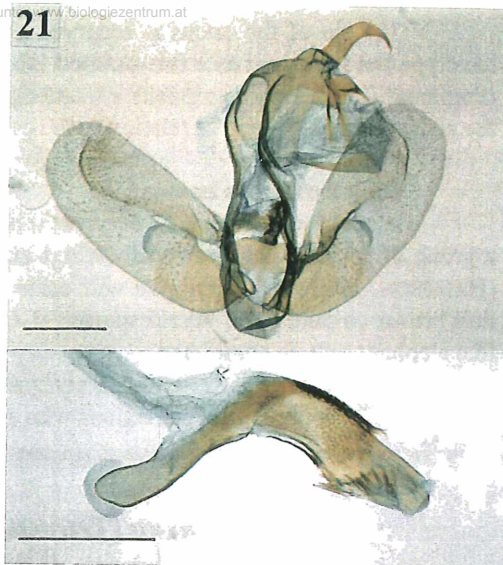
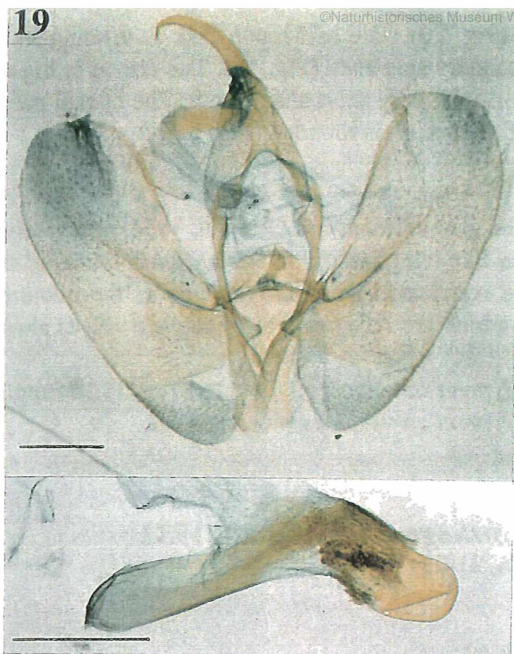


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Figs. 19-23 Male genitalia of *Hypena*-species described by TURNER (1932):

Fig. 19: [*H.*] *euryzostra*, lectotype, NHMW gen.praep. M. Lödl no. 645. Genitalia, total. Scale = 0.5 mm.- **Fig. 20:** dto.- Uncus. Scale = 0.1 mm.- **Fig. 21:** *H. orthographa*, lectotype, NHMW gen.praep. M. Lödl no. 637. Genitalia, total. Scale = 0.5 mm.- **Fig. 22** dto.- Uncus. Scale = 0.1 mm.- **Fig. 23:** dto.- Base of left valve. Scale = 0.1 mm.

The tip of the uncus is recurved and slender (Fig. 20). The half-moon disk is missing in the lectotype but is present as a fine-pointed lobe in the secondary specimen (Fig. 16). The clavus is big and prominent. The aedeagus exhibits a blunted distal end with very short shark-teeth. The coecal part of the aedeagus is very long in relation to the caudal part. The coecum is rounded (Fig. 19).

Only the male is known.

It could well be that *H. euryzostra* belongs to the genus *Dichromia* GUENÉE, 1854, concretely to a group of species with brown hindwings and a *Hypena*-like wing pattern like *Dichromia mesomelaena* (HAMPSON, 1902) [*Hypena*]. We will come to the right conclusion when the revision of the numerous dull brown coloured Old World species of *Dichromia*, which are recognizable by the big valves shaped like elephant ears, is completed.

H. euryzostra is very near or conspecific with *Hypena sanctigeorgii* COLLENETTE, 1928 from the Marquesas. There are also connections with the Indian *Hypena ophiuroides* MOORE, 1882.

***Hypena (Tetrastictypena) orthographa* TURNER, 1932** (Figs. 5-6, 17-18, 21-23)

Hypena orthographa TURNER, 1932: 187.

Type material:

Lectotype (by present designation): ♂, [Australia], Hypena TYPE orthographa Turn \ LECTOTYPE Hypena orthographa Turn. 1932 designated by M. Lödl \ Kuranda, N.Q. 30-8-29 \ NHMW gen.praep. M. Lödl no. 637 ♂ \ AUST. NAT. INS. COLL.“ (ANIC) (Fig. 5).

Paralectotype: 1 ♀, [Australia], PARALECTOTYPE Hypena orthographa Turn. 1932 designated by \ Cooktown 9.5.22 \ NHMW gen.praep. M. Lödl no. 644 ♀ \ AUST. NAT. INS. COLL.“ (ANIC) (Fig. 6).

Description:

Head: Greyish brown with big frog-eyes in the male and prominent frontal tuft. Labial palps relatively short and delicate, slightly concave on the ventral side. Third joint short.

Thorax and abdomen: Thorax stout, greyish brown with pale tips of the scales.

Wings: Wingspan = 27 - 29 mm; length width of forewing = 1.51 1.58. Greyish brown forewings, sometimes with a reddish touch and slightly speckled. The predominant feature is the straight postmedial band which is dark brown and pale or ivory coloured (♀) on the outer margin. The subterminal area is speckled with grey (especially in the ♀). Orbicular and reniform spot are missing,

as well as the antemedial band. The subterminal line is marked by little, black dots. The outer margin is marked by pale, light brown dots. The hindwings are of one colour, dark brown or dark reddish brown.

♂-genitalia (Figs. 21-23): Compact genitalia of about 1.5 mm length. Valve oval with a curved fold in the distal part, densely covered with hair-like scales. The sacculus wears a blunt lobe and a field of small bristles. The half-moon disk is broad (Fig. 23) and measures about 30% of the width of the valve. Uncus short, bill-like (Fig. 22), heavily sclerotized, as the scaphial area is. Scaphial sclerotization short. The juxta is divided in two diamond-shaped parts. The vinculum is slender and rounded. The aedeagus (Fig. 21) is strongly kneed with an opening angle of about 110°. The coecum is rounded and slightly upcurved. There are only few, short shark-teeth. The distal part of the aedeagus is long.

♀-genitalia (Figs. 17-18): Genitalia of a total length of 4.5 mm. The apophyses are very long (more than 0.75 mm). The ductus bursae is waved, slim and slender at the beginning and broader at the connection with the bursa. The ductus seminalis (Ds) runs into the ductus bursae near the bursa (Fig. 18). The ostium is enlarged with two lateral pockets. The bursa is about 2 mm long and an oval sack, densely covered with hair-like spines on the inner surface (Fig. 18). A signum (S) is present near the beginning of the ductus bursae with an area of small, sclerotized knobs (Fig. 18).

H. orthographa is very near or conspecific with *Hypena iconicalis* WALKER, [1859] 1858 and *Hypena iridis* BUTLER, 1887 from the Solomon Islands. The typical *H. iconicalis* comes from Sri Lanka and seems to be widespread in the Indoaustralian Region. The Australian *H. orthographa* matches with its male genitalia quite well specimens from the Fiji Islands (compare Noctuidae Brit. Mus. slide No. 7378 in The Natural History Museum, London). The most interesting finding of the redescription of this species was its subgenus combination. The subgenus *Tetrastictypena* LÖDL, 1994 was based on a single species, the exclusively African *Hypena tetrasticta* HAMPSON, 1910. It is clear now, that one of the most striking features, the prominent costalprocess of the valves is a feature of the species level. Nevertheless we have good evidence about the correctness of *Tetrastictypena*, because the female confirms the typically waved ductus bursae and the male genitalia exhibit a small, very fine pointed, bill-like uncus and a very broad half-moon disk on the valves. So *H. orthographa* and its relatives represent now the Indo-Australian link of *Tetrastictypena*. The hypotheses of *Tetrastictypena* as a monophyletic unit is verified.

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