

# Scythridids of the Arabian Peninsula, I: Oman (Lepidoptera: Scythrididae)

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**Abstract.** Around the year-shift of 1992 and 1993 Bjarne Skule, Denmark collected 159 specimens of the family Scythrididae in Oman. 11 different species were identified of which 6 are new to science: *Scythris alhamrae* sp. n., *S. amplexella* sp. n., *S. cucullella* sp. n., *S. elachistoides* sp. n., *S. pollicella* sp. n., and *S. valgella* sp. n. Genitalia and external appearances of these are presented and the distribution area and other information available are given for all treated species.

**Samenvatting.** Scythrididae van het Arabisch Schiereiland, I: Oman (Lepidoptera; Scythrididae)

Tijdens de jaarwisseling 1992-1993 verzamelde Bjarne Skule (Denemarken) 159 exemplaren Scythrididae in Oman. 11 verschillende soorten werden gedetermineerd waarvan 6 nieuw voor de wetenschap: *Scythris alhamrae* sp. n., *S. amplexella* sp. n., *S. cucullella* sp. n., *S. elachistoides* sp. n., *S. pollicella* sp. n., en *S. valgella* sp. n. De genitalia en het uiterlijk van de nieuwe soorten worden beschreven en afgebeeld. De verspreiding en andere beschikbare informatie wordt gegeven voor alle vermelde soorten.

**Resumé.** Scythrididés de la Péninsule arabe, I: Oman (Lepidoptera: Scythrididae)

Au changement de 1992/1993 Bjarne Skule, Danemark recueille 159 exemplaires de la famille Scythrididae dans Oman. 11 espèces différentes sont définies et parmi celles-ci se trouvent 6 espèces nouvelles pour la science: *Scythris alhamrae* sp. n., *S. amplexella* sp. n., *S. cucullella* sp. n., *S. elachistoides* sp. n., *S. pollicella* sp. n. et *S. valgella* sp. n. Les genitalia et les extérieures des espèces nouvelles sont illustrés. La distribution et d'autres informations disponibles sont données pour toutes les espèces traitées.

**Key words:** Scythrididae – Eretmocera – Scythris – Oman – taxonomy – faunistics.

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## Introduction

The lepidopteran fauna of the Arabic Peninsula (Arabia) is poorly investigated. The few articles published on this subject are including only scattered information on the scythridids, e.g. Passerin d'Entrèves (1986) and Bengtsson (1997a). The species recorded so far from the current area indicate an expected faunistic link between Iran and the northeast of Africa.

At the shift of 1992/1993 Mr. Bjarne Skule, Denmark, stayed in Oman for some weeks due to professional affairs. In his spare time he was able to collect Lepidoptera after having been given permission by due authorities in Oman. He delivered 159 specimens of Scythrididae to the Zoological Museum, University of Copenhagen (ZMUC) and they were, after spreading, forwarded to me for examination by Ole Karsholt, the curator to whom I owe a great debt for letting me study this interesting material. Among the specimens received I have identified 11 species of which 6 are new to science. The result is presented here and the species are listed in alphabetic order after generic and specific names.

I also thank Dr. Martin Lödl at the Naturhistorisches Museum Wien for giving me access to the museum in 1993 where I examined selected specimens of species mentioned in this paper. More material is preserved in Vienna of some of the species but was not available during the composing of this article.

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## List of species

### *Eretmocera impactella* (Walker, 1864)

1♂: Oman, Northern Region, Al Hail, 7 km E Seeb, 1.i.1992, 0 m, leg. B. Skule (Dania).

**Imago** (Fig. 1): The blackish brown forewing may exhibit more or less distinct whitish or white yellowish markings. The coloration of abdomen (bright dark yellow and black) and forewing markings separate *impactella* from other species of the genus *Eretmocera*. Specimens from Sri Lanka (Ceylon) have in general additional and more extended whitish spots in the forewing (Fig. 2).

**Distribution:** India, Oman and Sri Lanka (Ceylon).

### *Scythris alhamrae* Bengtsson sp. n.

**Holotype:** ♂, Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993, 1100 m, leg. B. Skule (Dania). Genitalia on slide BÅB 634X. - In coll. ZMUC [Copenhagen].

**Paratypes:** 7♂ and 3♀, data as in holotype. Genitalia of one female on slide BÅB 635X. - In coll. ZMUC.

1♂ and 1♀, data as in holotype. - In coll. BÅB.

**Imago** (Fig. 4): Wingspan 12.5–14 mm. Head, collar, tegulae and thorax olive brown, tegulae slightly paler. Labial palpi pale beige but terminal joint darker, dark olive beige. Antennae brown, pecten and ventral side of scape cream. Forewing olive brown, in fold a cream streak from base, through cell and reaching apex, meeting there a thin cream costal streak. Hindwing fuscous with faint violet hue, at base slightly paler. Cilia in both wings fuscous. Legs beige or cream, ventral side of tarsi conspicuously blackish. Male abdomen dark greyish beige dorsally, cream ventrally; anal tuft a narrow brush of hair-scales, yellowish and brownish ochreous dorsally and cream ventrally. Female abdomen dark nut-brown dorsally (segment 1–4), yellowish ochreous (5–6) and pale ochreous (7); ivory ventrally.

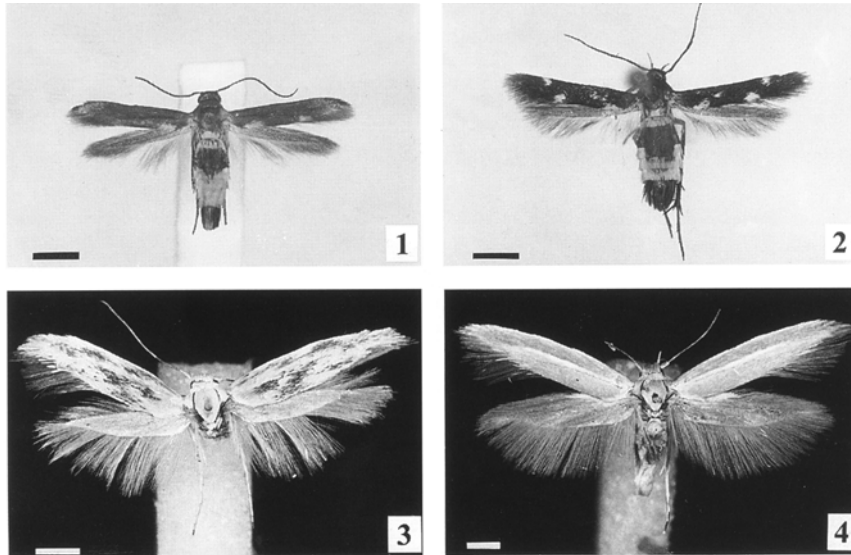
**Male genitalia** (Figs. 9–10): Complex and difficult to interpret. Uncus a stout digital process. Gnathos absent. Socii very weak, bristled, united by a thin membrane. Valvae seemingly reduced to sclerotised arches on anterolateral margin of tegumen. Aedeagus asymmetrically located, virtually directly fixed to anterior rim of tegumen, stout, sigmoid, tapered. Sternum 8 a wide plate, lateroposteriorly extended. Tergum 8 linguiform.

**Female genitalia** (Fig. 11): Sterigma a conical structure, more or less folded (evident when pressed at preparation), on each side a posterior setose lobe. Sternum 7 subtrapezoid with wide caudal indentation.

**Distribution:** Only recorded from Oman.

**Bionomics:** Unknown.

**Etymology:** *Scythris alhamrae* sp. n. is named after the type locality.



Figs. 1–4. Scale bar 1.0 mm.

Fig. 1. *Eretmocera impactella* Wlk. from Oman

Fig. 2. *Eretmocera impactella* from Sri Lanka (CEYLON, Negombo, Blue Lagoon Hotel, 30.XI.1971, B.Gustafsson [leg.], coll. BÅB)

Fig. 3. *Scythris amplexella* sp.n. (Holotype)

Fig. 4. *Scythris alhamrae* sp.n. (Paratype: Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993, 1100 m)

**Note:** *S. alhamrae* seems to have no relationship to any other known species-group in Scythrididae.

***Scythris amplexella* Bengtsson sp. n.**

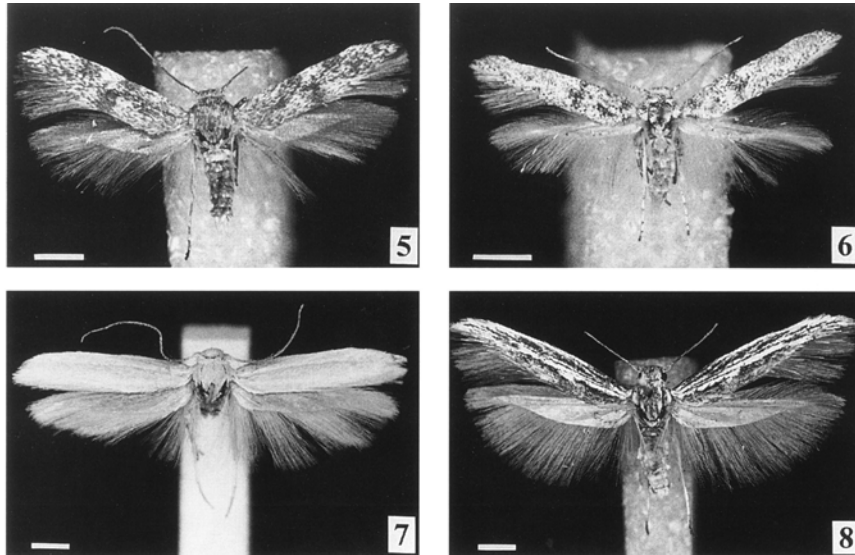
**Holotype:** ♂, Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993, 1100 m, leg. B. Skule (Dania). Genitalia on slide BÅB 615X. In coll. ZMUC [Copenhagen].

**Paratypes:** 22♂, 10♀: data as in holotype. 1♂ with genitalia on slide BÅB 617X; 1♀ with genitalia on slide BÅB 616X. – 3♂ and 2♀ in coll. BÅB, the rest in coll. ZMUC.

8♂, 1♀: Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993, leg. B. Skule (Dania). – 1♂ in coll. BÅB, the rest in coll. ZMUC.

3♂: Oman, Northern Region, Wadi Al Khawd, 100 m, 20 km S Seeb, 4.i.1993, leg. B. Skule (Dania). – In coll. ZMUC.

2♂: Oman, Northern Region, 20 km SE Ibra, 300 m, 11.i.1993, leg. B. Skule (Dania). – In coll. ZMUC.



Figs. 5–8. Scale bar 1.0 mm.

Fig. 5. *Scythris cucullella* sp.n. (Paratype: Oman, Northern Region, 20 km SE Ibra, 300 m, 11.i.1993)

Fig. 6. *Scythris elachistoides* sp.n. (Paratype: Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993)

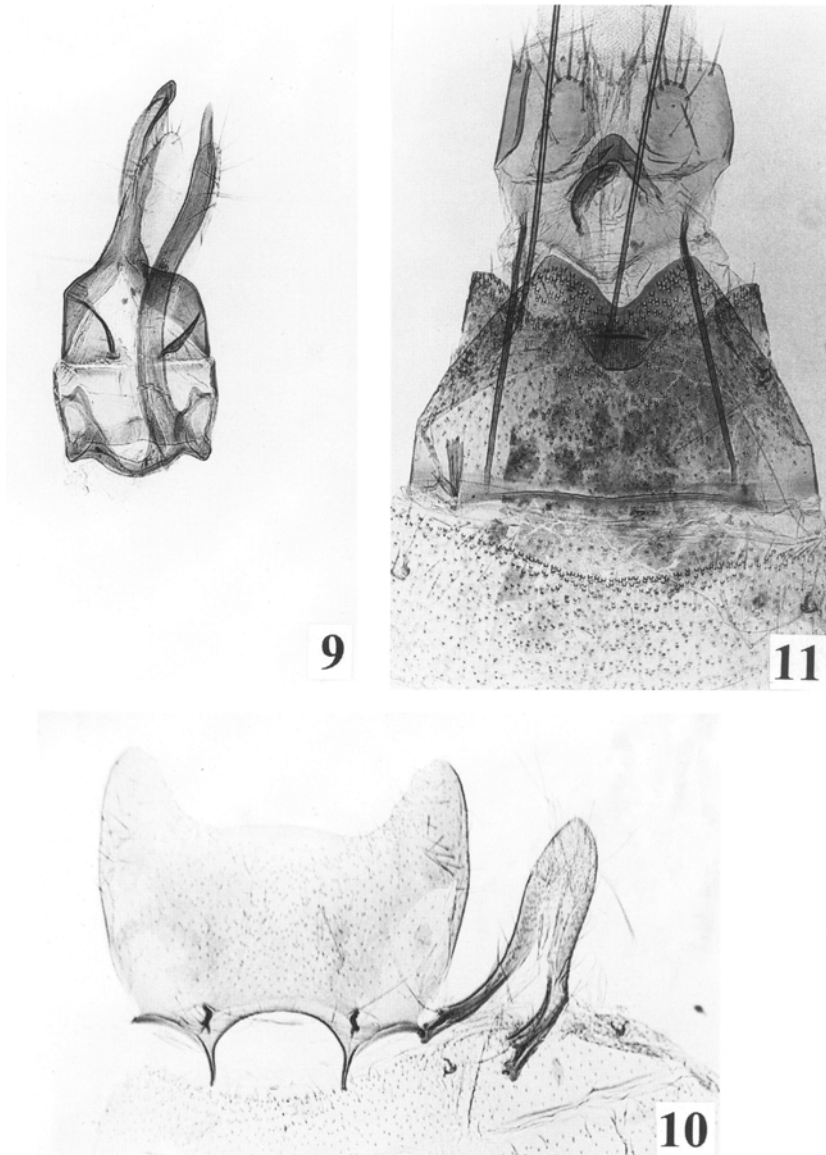
Fig. 7. *Scythris pollicella* sp.n. (Holotype)

Fig. 8. *Scythris valgella* sp.n. (Holotype)

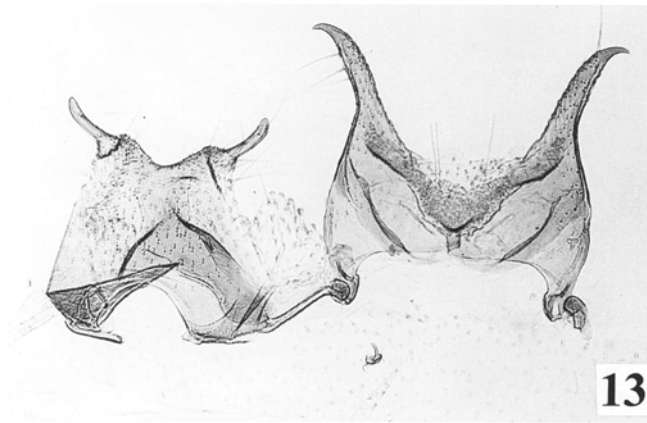
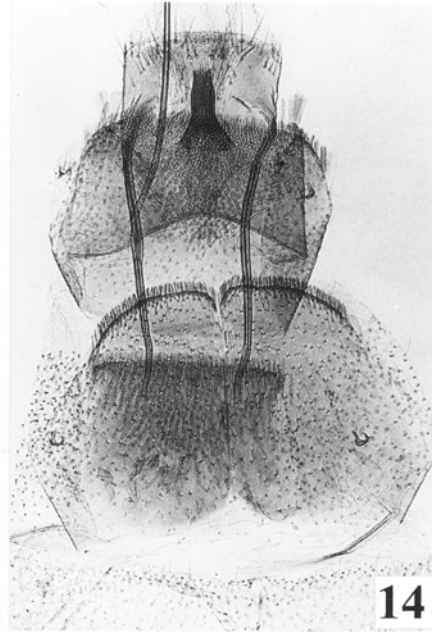
**Additional material:** 3♂, 10.11.1962, 2. Nilkatarakt, O-Ufer, Nubien, Exp.Mus.Vind. Genitalia in plastic tube on needle MW 3705, in glass tube MW 3705 [77], and on slide MW 3700. - In coll. NHMW [Vienna].

**Imago** (Fig. 3): Wingspan 11–13 mm. Head, scape of antennae, labial palpi and legs whitish with faint rose hue, flagellum pale brownish. Collar, tegulae and thorax pale ochreous rose. Forewing rose (Nubia) or ochreous yellow (Oman) with dark brown scales forming irregular dashes around fold, one at one fourth, one in middle and one above tornus at cell end, extending towards costa in two wide-angled branches; brown scales scattered on the rest of wing surface. Hindwing silken greyish. Cilia in both wings pale fuscous. Abdomen yellowish grey dorsally, ivory ventrally.

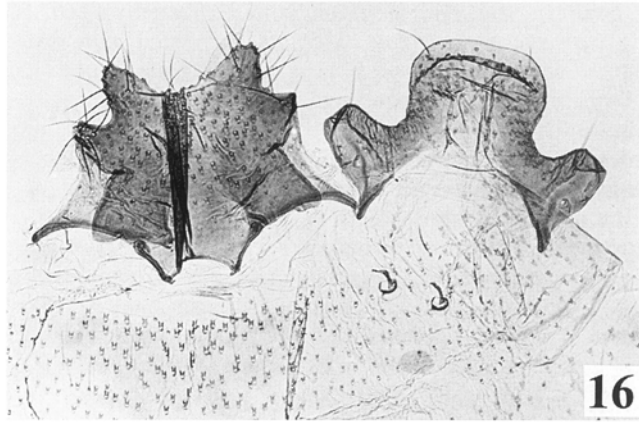
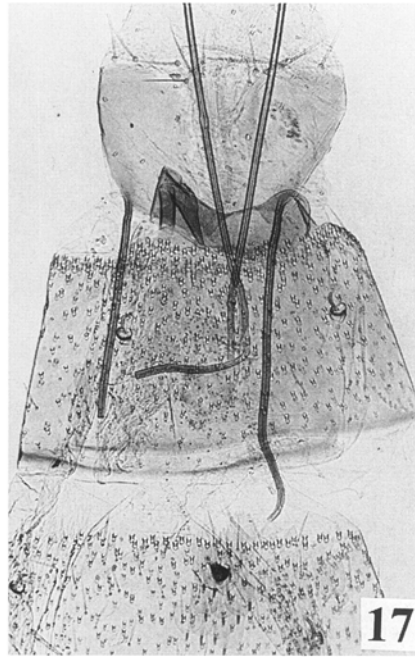
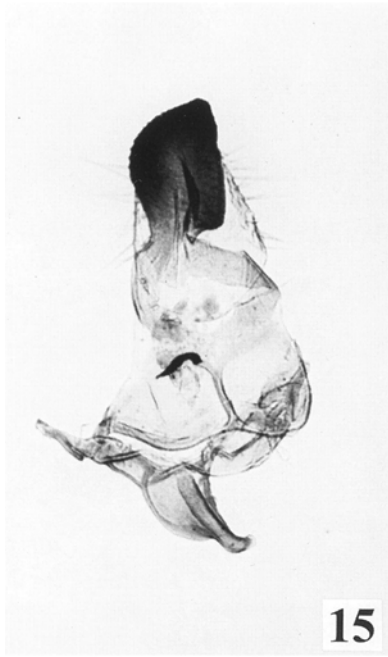
**Male genitalia** (Figs. 12–13): Uncus a setose, divided plate, distal part strongly angular downwards. Gnathos missing. Aedeagus a small, straight tube. Valvae subtriangular, tapered, tips rather pointed. Sternum 8 subtrapezoid, posteriorly widely bifurcate, prongs inwardly bent. Tergum 8 subrectangular, *in situ* bowl-shaped, posteriorly with two long, at tip pointed and outwardly bent processes.



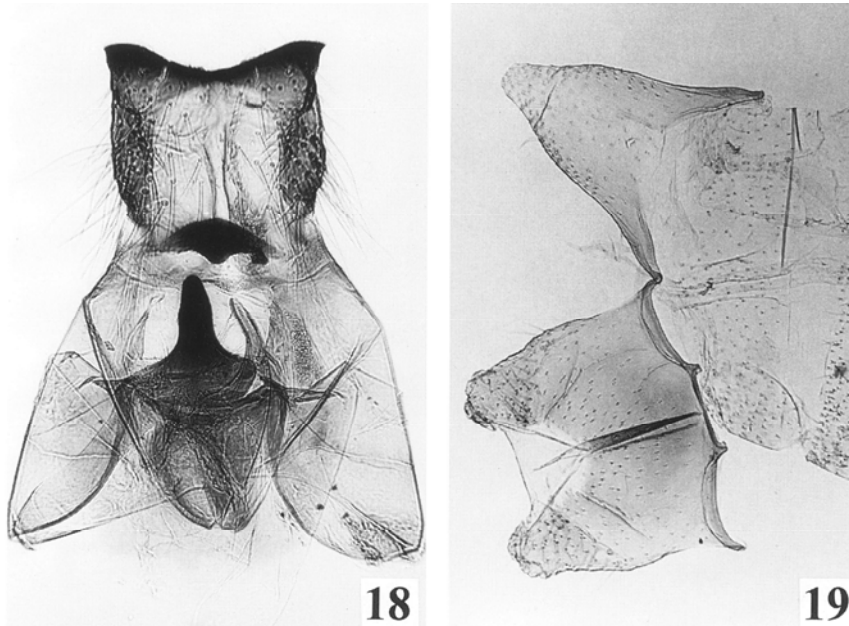
Figs. 9–11. *Scythris alhamrae* sp.n. – Fig. 9. Male genitalia (HT). – Fig. 10. Sternum 8 (to the left) and tergum 8 (to the right) (HT). – Fig. 11. Female genitalia (PT: BÄB 635X).



Figs. 12–14. *Scythris amplexella* sp.n. – Fig. 12. Male genitalia (HT). – Fig. 13. Sternum 8 (to the left) and tergum 8 (to the right) (HT). – Fig. 14. Female genitalia (PT: BAB 616X).



Figs. 15–17. *Scythris cucullella* sp.n. – Fig. 15. Male genitalia (PT: BÅB 624X). – Fig. 16. Sternum 8 (to the left) and tergum 8 (to the right) (PT: BÅB 623X). – Fig. 17. Female genitalia (PT: BÅB 625X).



Figs. 18–19. *Scythris elachistoides* sp.n. – Fig. 18. Male genitalia (HT). – Fig. 19. Sternum 8 (bottom) and tergum 8 (top) (HT).

**Female genitalia** (Fig. 14): Sterigma conical, funnel-shaped, at tip cut off, 2/3 from tip with transverse suture. Sternum 7 covered with many warts in a triangular area. Sternum 6 a broad almost circular plate, posteromedially cleft, posteriorly bordered by equally sized scales.

**Distribution:** Oman, Sudan.

**Bionomics:** The adult moth has been found on light in November–January.

**Etymology:** The species-name is referring to the shape of segment 8, embracing the genitalia with its more or less pointed extensions (*amplexus* in (poetic) Latin means embracing, embrace).

**Note:** The species, including illustration of the male genitalia, was published by Kasy (1967) without a name. Based on genitalia structure *Scythris amplexella* seems to have a certain relationship with e.g. *S. mus* Walsingham and *S. pangalactis* Meyrick (e.g. published in Bengtsson (1997b)).

*Scythris cucullella* Bengtsson sp. n.

**Holotype:** ♂, Oman, North Region, 20 km SE Ibra, 300 m, 11.i.1993, leg. B. Skule (Dania). Genitalia on slide BÅB 623X. - In coll. ZMUC [Copenhagen].



**Paratypes:** 15♂ and 6♀, labelled as in holotype. Genitalia of 1♂ and 1♀ on slides BÅB 624X and 626X. – 3♂ and 1♀ in coll. BÅB, the rest in coll. ZMUC.

1♂ and 2♀, Oman, Northern Region, Al Hail, 7 km E Seeb, 0 m, 30.xii.1992, leg. B. Skule (Dania). - In coll. ZMUC.

4♂ and 4♀, Oman, Northern Region, Wadi Al Khawd, 100 m, 20 km S Seeb, 4.i.1993, leg. B. Skule (Dania). - In coll. ZMUC.

5♀, Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993, leg. B. Skule (Dania). Genitalia of 1♀ on slide BÅB 625X. – 1♀ in coll. BÅB, 4♀ in coll. ZMUC.

**Imago** (Fig. 5): Wingspan 7–10 mm. Head, collar, tegulae and thorax covered with fuscous and whitish scales. Basal and second joint of labial palpi cream, terminal joint cream with several fuscous scales. Scape of antenna ringed by fuscous and whitish scales or at least posterior margin and underside whitish; flagellum dark fuscous. Forewing dark fuscous with extended cream, diffuse markings; most prominent are a dark oblique fascia at 1/3 and a dark costal spot at 2/3; in some specimens (especially in females) the fuscous areas are so extended that only a white dash or fascia at 2/3 and few scattered scales in apical area are visible. Hindwing brownish grey. Cilia in both wings fuscous. Legs cream on coxa and femur, tibia cream with two dark dashes, tarsal joints 1-2 to a great part cream, 4-5 dark fuscous. Male abdomen fuscous or olive grey dorsally, cream or pale beige ventrally; anal tuft from dorsal view compressed in middle, on each side a protruding thin brush more or less well-marked. Female abdomen greyish beige but segment (3)–5 yellowish ochreous; papillae anales protruding.

**Male genitalia** (Figs. 15–16): Extremely transformed and difficult to interpret. Uncus (?) a strongly sclerotized, warty hood. Gnathos missing. Socii large, membranous, sparsely setose. Valvae small sclerotized thin stumps. Aedeagus with broad base, with seemingly immovable articulation to anterior margin of tegumen, tip of aedeagus thin, slightly hooked. Sternum 8 subtrapezoid with lateral extensions and incurved posterior margin. Tergum 8 with a rounded central portion, laterobasally with small trapezoid plate.

**Female genitalia** (Fig. 17): Asymmetrical. Sterigma collar-shaped, on left side with additional sclerotized fold(s).

**Distribution:** Only known from Oman.

**Biology:** Unknown.

**Etymology:** The name *cucullella* is referring to the hood-shaped uncus (?) (hood = *cullullus* in Latin).

**Note:** By having very peculiar genitalia *Scythris cucullella* obviously constitutes, on basis of current knowledge, a species-group of its own.

*Scythris elachistoides* Bengtsson sp. n.

**Holotype:** ♂, Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993, leg. B. Skule (Dania). Genitalia on slide BÅB 629X. - In coll. ZMUC [Copenhagen].

**Paratypes:** 14♂, data as in holotype. Genitalia of one specimen on slide BÅB 630X. - In coll. ZMUC.

3♂, data as in holotype. - In coll. BÅB.

**Imago** (Fig. 6): Wingspan 6–7.5 mm. Appearance at first glance not reminding of a scythridid. Head whitish, scales dark-tipped. Labial palpi almost porrect, basal joint mottled by whitish and fuscous scales, second joint fuscous in basal half, posterior half whitish with scales standing out, terminal joint moderately pointed, fuscous with whitish apical half. Scape mottled, pecten cream, flagellum ringed in basal fifth, the rest brown. Collar, tegulae and thorax with cream, dark-tipped scales. Forewing mottled by whitish and fuscous scales and some markings may be observed in most specimens: a dark fascia at 1/3 and a transverse dash near base. Hindwing narrow, pale fuscous, darker at tip. Cilia in both wings pale fuscous. Legs mottled but tarsi mostly dirty whitish with dark fuscous anterior margins.

**Male genitalia** (Figs. 18–19): Difficult to interpret. Uncus wide, setose (particularly laterally), with sclerotized hind margin, posterolaterally pointed. Gnathos small and short, only a transverse, labiate sclerotization. Valvae (?) fused to a strongly sclerotized peg with broad base. Aedeagus bottle-shaped, curved. Sternum 8 bilobed, medioposteriorly united by a membrane. Tergum 8 subtriangular, incurved anteriorly.

**Female genitalia:** Unknown.

**Distribution:** Only known from Oman.

**Bionomics:** Unknown.

**Etymology:** *Scythris elachistoides* is closely resembling an elachistid (a member of the microlepidopteran family Elachistidae) and hence the species-name.

**Note:** *S. elachistoides* cannot be assigned to any known scythridid species-group.

*Scythris fissurella* Bengtsson, 1996

1♂, Oman, Northern Region, Wadi Al Khawd, 100 m, 20 km S Seeb, 6.i.1993.

2♂, Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993.

1♀, Oman, Northern Region, Al Hail, 7 km E Seeb, 0 m, 29.xii.1992.

1♀, Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993, 1100 m.

**Imago and genitalia** appearances are published in Bengtsson (1997a).

**Distribution:** Iran, Pakistan and Sudan.

*Scythris (Catascythris) kebirella* (Amsel, 1935)

13♂ and 8♀: Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993, 1100 m.

**Imago and genitalia** appearances are published in Bengtsson (1997b).

**Distribution:** Israel, Iran, Oman, Saudi Arabia.

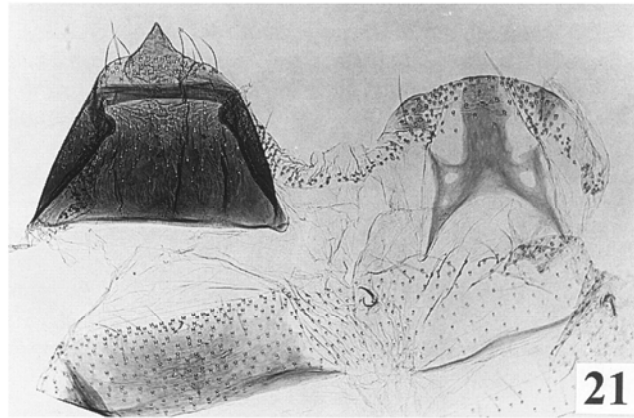
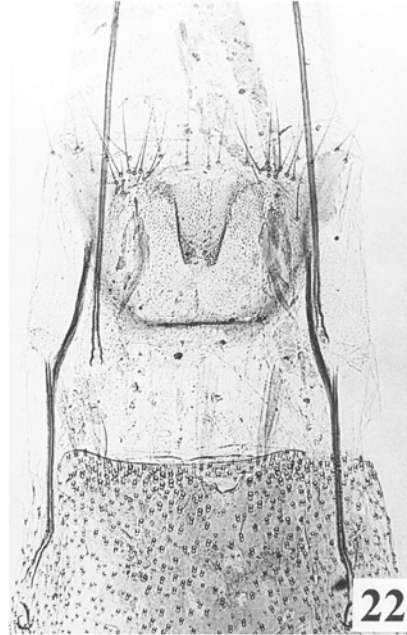
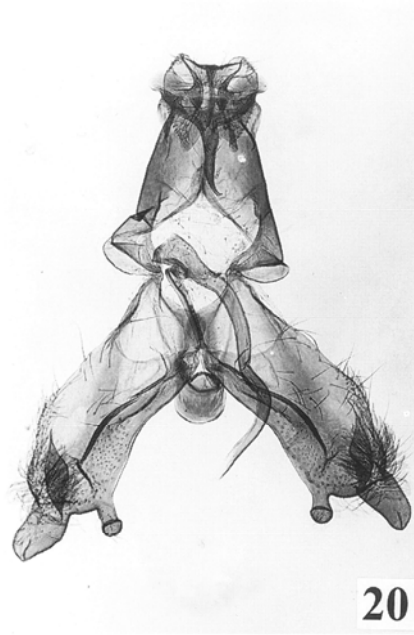
*Scythris nipholecta* Meyrick, 1924

Junior synonym: *Scythris melanosticta* Turati, 1930.

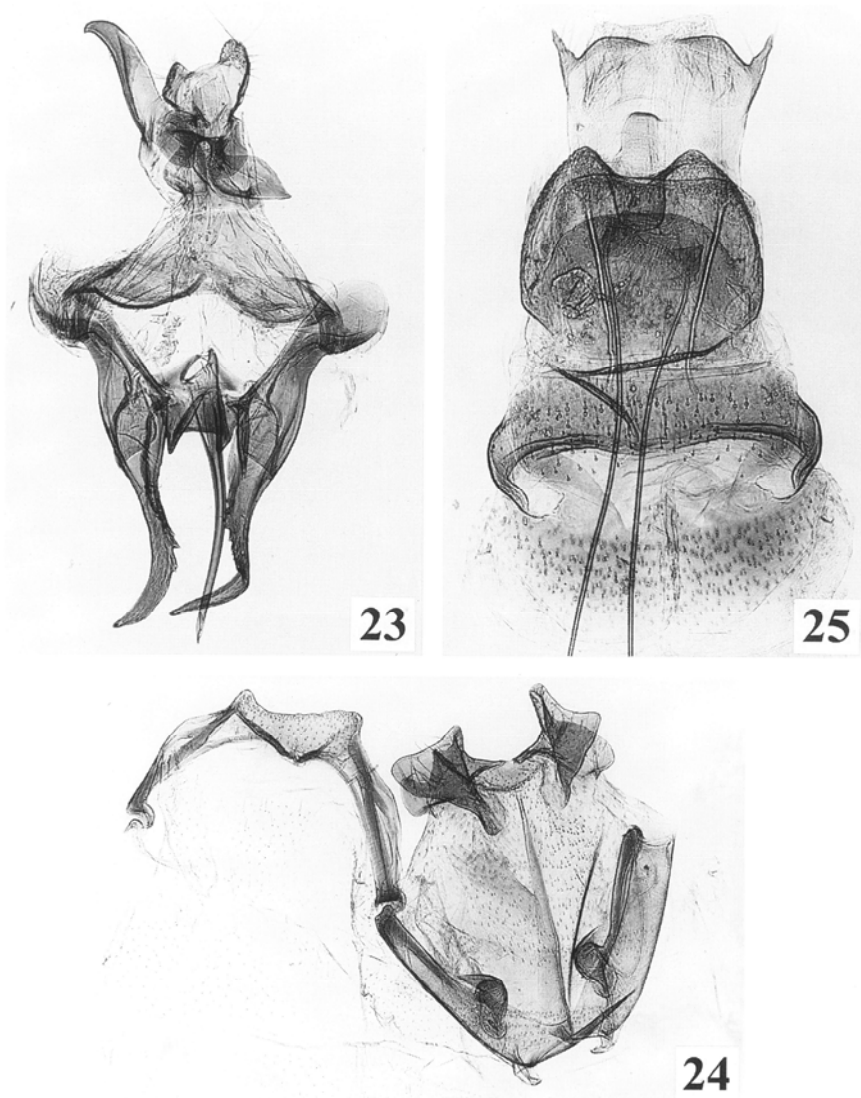
2♀, Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993.

**Imago and genitalia** are published by Bengtsson (1997b).

**Distribution:** Egypt, Libya, Oman, Sudan.



Figs. 20–22. *Scythris pollicella* sp.n. – Fig. 20. Male genitalia (PT: BÅB 619X). – Fig. 21. Sternum 8 (to the left) and tergum 8 (to the right) (PT: BÅB 619X). – Fig. 22. Female genitalia (PT: BÅB 621X).



Figs. 23–25. *Scythris valgella* sp.n. – Fig. 23. Male genitalia (PT: BĀB 627X). – 24. Sternum 8 (to the right) and tergum 8 (to the left) (PT: BĀB 627X). – 25. Female genitalia (PT: BĀB 628X)

***Scythris pangalactis*** Meyrick, 1933

5♂, Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993.

1♂ and 1♀, Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993.

**Male and female genitalia** were published by Kasy (1967) as “sp.5”.

**Distribution:** One of the most naturally widespread scythruid species, so far recorded from Botswana, Gambia, India, Iran, Oman, Sudan.

***Scythris pollicella*** Bengtsson sp. n.

**Holotype:** ♂, Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993, leg. B. Skule (Dania). Genitalia on slide BÅB 620X. - In coll. ZMUC [Copenhagen].

**Paratypes:** 1♂, Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993, 1100 m, leg. B. Skule (Dania). Genitalia on slide BÅB 619X. - In coll. BÅB.

1♂, data as in previous paratype. Genitalia on slide BÅB 637X. - In coll. ZMUC.

1♀, data as in holotype. Genitalia on slide BÅB 621X. - In coll. ZMUC.

**Imago** (Fig. 7): Wingspan 10–11.5 mm. Head, labial palpi, antennae, collar, tegulae, thorax, legs and forewing beige or bone coloured, antennae with rather long cilia. Hindwing pale fuscous.

**Male genitalia** (Figs. 20–21): Uncus hood-shaped, medioposteriorly slightly indented. Gnathos slightly sigmoid, tapered. Valvae slightly asymmetrical, right valva somewhat broader, each one terminally ending in two digital processes of different size. Aedeagus rather long, tapered, in middle making a shallow bend. Sternum 8 subtrapezoid, apically extended to a point, near hind margin a transverse sclerotised ridge. Tergum 8 membranous with weak octopus-shaped sclerotization.

**Female genitalia** (Fig. 22): Sterigma conical, truncated tip directed anteriorly, sterigma area and segment 8 densely covered with minute spines. Sternum 7 with small semicircular incurvation at posterior margin.

**Distribution:** Oman.

**Biology:** Unknown.

**Etymology:** The species-name is alluding to the thumb-shaped extension of the valva (*pollex* in Latin = thumb).

**Note:** The structure of male genitalia indicates relationship with the Indian species *Scythris multiplicella* Bengtsson, 1997 and some other undescribed species from south Asia.

***Scythris valgella*** Bengtsson sp. n.

**Holotype:** ♂, Oman, Northern Region, Wadi Tanuf, 650 m, 8.i.1993, leg. B. Skule (Dania). - In coll. ZMUC [Copenhagen].

**Paratypes:** 2♀, with same data as in holotype. Genitalia of one female on slide BÅB 628X. - In coll. ZMUC. and coll. BÅB.

1♂, Oman, Northern Region, Jabal Shams, 19 km NW Al Hamra, 7.i.1993, 1100 m, leg. B. Skule (Dania). Genitalia on slide BÅB 627X. - In coll. ZMUC.

**Additional material:** 1♀, 27.4.1974, S-Iran, Abad-Geno, 40 km nördl. Bandar-Abbas, Exped.Mus.Vindob. [leg. F.Kasy]. Genitalia on slide MW 4738 (Jä 8466). - In NHMW [Vienna].

**Imago** (Fig. 8): Wingspan 9.5–12 mm. Head cream, crown with several fuscous scales. Labial palpi cream, terminal joint with some fuscous scales. Scape fuscous dorsally, underside and pecten cream, flagellum brown. Collar, tegulae and thorax fuscous-scaled, with many cream scales, especially on hind margins of tegulae and thorax. Forewing longitudinally striated in dark fuscous and whitish, a whitish plical streak most prominent. Hindwing fuscous, paler near base. Cilia in both wings fuscous. Legs cream but femur with fuscous scales at coxa articulation and on outer surface; first tarsal joint cream, then each joint darkening, terminal joint dark fuscous. Male abdomen greyish beige or ochreous dorsally, cream with few fuscous scales ventrally. Anal tuft converging terminally. Female abdomen beige dorsally, gradually paler ochreous posteriorly; ventral side whitish.

**Male genitalia** (Figs. 23–24): Uncus slightly asymmetrical, two fused setose lobes, at base articulated to tegumen and with a pair of flaps. Gnathos basally with two flaps, distal arm stout and tapered, slightly sigmoid. Valvae narrow, sickle-shaped, inner margin dentate in middle. Aedeagus rather long and thin, tapered, slightly bent. Sternum 8 a U-shaped, irregular band. Tergum 8 basically hexagonal, posteriorly with pair of complex flaps, antero-laterally with sclerotized reinforcement.

**Female genitalia** (Fig. 25): Most prominent features are the pointed, posterolateral projections on segment 8, the arched sternum 7 and the truncated, conical sterigma. Segment 7 and 8 composed by several large plates, membraneously attached to each other. At preparation the weak papillae anales unwillingly come out in normal position but fold themselves backwards and stay inside the penultimate segments, thereby leaving the striking profile of segment 8 most posterior.

**Distribution:** Iran and Oman.

**Bionomics:** Unknown.

**Etymology:** The species-name originates from the Latin word *valgus* (bow-legged, cow-hocked) alluding to the curved valvae.

**Note:** *Scythis valgella* sp. n. cannot be assigned to any known species-group in Scythrididae on the base of the genitalia.

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