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New and interesting Geometrid Moths from the Oman

(Lepidoptera, Geometridae)

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Abstract

Twenty-four Omanese Geometridae species of special taxonomic interest are discussed in this paper. Two new species and two new subspecies are described: *Idaea granulosa triangulifera* subsp.n., *Scopula nubifera* sp.n., *Scopula lactaria qaboosi* subsp.n. and *Rhodostrophia skulei* sp.n.. Taxonomical changes concern three taxa: *Scopula similata* (Le Cerf, 1924), comb. n., transferred from *Glossotrophia*; *Nebula saidabadi* (Brandt, 1941), comb. n., transferred from *Coenotephria*; *Problepsis ocellata cinerea* (Butler, 1886), stat. n. raised from synonymy to subspecies rank; females are described for the first time for the genus *Microbaena* Hausmann, 1996, and *Problepsis erythra* Wiltshire, 1982. The latter species to date has been known from the holotypic specimen only, and is rediscovered now far from its African type locality. Determinations are discussed and corrected for two taxa belonging to the fauna of the Oman: *Idaea eremica* (Brandt, 1941) (= *Idaea hathor* sensu auct.) and *Glossotrophia gracilis* Brandt, 1941 (=*Glossotrophia alfierii* sensu auct.). *Problepsis ocellata cinerea* is newly recorded for the fauna of Pakistan.

Introduction

In the period from December 1992 to July 1995 Mr. Bjarne Skule, Rodovre, Denmark, made four collecting trips to N. and S. Oman. He collected a large amount of very interesting Macrolepidoptera. This article intends to discuss the morphology of some interesting Geometridae species from the Oman with the aim to approach a more stable and correct systematic list for this country. A survey over the whole fauna, based on the excellent material of Bjarne Skule, will be provided soon in a supplementary article. More detailed faunistic data and illustrations of adult stages will be included in that paper.

Systematic part

Microbaena pulchra minor Hausmann, 1996
(Fig. 1)

Microbaena pulchra minor Hausmann, 1996: Nota lepid. 19 (1/2): 23 (loc. typ.: Erkowit, NE. Sudan)

To date no ♀ has been known for the genus *Microbaena*. 6♂♀ from the Oman allow a more detailed description of the morphology: Length of forewing ♂ 8.2-8.5 mm, ♀ 12.1 mm; length of third segment of palpus 0.20 mm in ♂, 0.35 mm in ♀, total length in ♀ 1.75 mm (=twice diameter of eye); both ♂ and ♀ hindtibia with two spurs, normal, without dilatations or other projections; relative length ♂ hindtibia/tarsus 2.0/2.0 mm. ♀ frenulum lacking. ♀ antenna slightly dentate, densely ciliate, length of cilia about ½ width of flagellum. All the structural features of the Omanese populations, even ♂ genitalia, reveal closer relationship to the subsp. *minor* than to the nominate subspecies (compare Hausmann 1996).

Phaiogramma faustinata (Millière, 1868)

Nemoria faustinata Millière, 1868: Ann. Soc. Linn. Lyon (N.S.) 17: 26 (Icon. Chen. 2: 436) (loc. typ.: Barcelona, NE. Spain)

In the populations from the Oman male genitalia always with two fields of cornuti in the aedeagus (three in the northern parts of the Levant).

Idaea granulosa triangulifera subsp.n.
(Fig. 2)

Holotype: ♀, N. Oman, Al Hail, 7 km E. Seeb, 0 m, 31. III.1993, leg. Skule, coll. ZSM, gen.prp. G 8721
Paratypes: 1♀, N. Oman, Wadi Abyad, 350 m, 1.IV.1993, leg. Skule, coll. ZSM; 1♀, N. Oman, Wadi Al Khawd, 100 m, 29.III.1993, leg. et coll. Skule.

Description. Forewing length 4.4-4.9 mm only (♀♀). Shape of wings very slender, apex pointed. Wing colour ash-grey, postmedian line, median shade and antemedian line on all wings vague, nearly invisible, on forewing costa enlarged to rather small costal spots. Cell spot hardly visible, small, punctiform, near marginal area of wing. Frons black. Palpus very short and slender: length about 0.25 mm = half diameter of eye. ♀ antenna simple, almost without cilia. Tongue developed, length about 1.5 mm. ♀ genitalia: Ostium bursae trianguliform, corpus bursae globular, densely spinulous.

Diagnosis. In ♀ genitalia of the nominate subspecies ostium bursae rectangular. In *Idaea microptera* spines of the corpus bursae are less sclerotised, bursa much smaller. Furthermore in *Idaea microptera* the ostium bursae poorly sclerotised. Forewing length in *Idaea microptera* 3.6-4.3 mm only (examined populations from S. Israel). *Idaea mimetes* (Brandt, 1941) and *Idaea sordida dhofarica* Wiltshire, 1986, both sympatrically occurring in N. Oman, differ by the darker wing colour, which is more brownish in *Idaea mimetes*, more blackish with distinct median shade, ante- and postmedian line in *Idaea sordida dhofarica*. Both the latter species are larger, with forewing length 5.2-6.5 mm.

Idaea gallagheri Wiltshire, 1983
(Figs. 3, 4)

Idaea gallagheri Wiltshire, 1983: Fauna of Saudi Arabia 5: 300 (loc. typ.: Jebel Akhdar, N. Oman)

The illustrations of the genitalia of this species in Wiltshire (1983) are somewhat misleading: "terminal" dent of valva (♂ genitalia) in reality subterminal, appearing as terminal only when tip of valva is turned upside down; ♀ genitalia: corpus bursae more spinulous than in the figure of Wiltshire (1983). ♂ hindtibia with two long spurs, ♂ hindtarsus not shortened. With regard to these structure details *Idaea gallagheri* has to be inserted into the first group according to the classification of Sterneck (1940), not into the 14th group as proposed in Wiltshire (1983). Even ♂ and ♀ genitalia justify this infrageneric transfer.

Idaea eremica (Brandt, 1941)

Sterrha eremica Brandt, 1941: Mitt. Münch. Ent. Ges. 31 (3): 870; fig. 9 (loc. typ.: Sardze Umgebung, Tahte Malek, Kouh i Taftan-Gebiet, S. Iran)
Idaea hathor: sensu Wiltshire 1977b nec Wiltshire, 1949

The examined specimens from N. Oman are not conspecific with *Idaea hathor* (Wiltshire, 1949)! Breadth of ostium bursae 0.57-0.65 mm (typical for *Idaea eremica*), laterally pointed; the latter feature somewhat ressembling to *Idaea fittkaui* (Hausmann, 1992) from Afghanistan. Length of ♂ aedeagus 1.0 mm only (even shorter than *Idaea ajmereusis* Wiltshire, 1983), length of cornutus 0.43 mm (similar to *Idaea eremica*). Shape of cornutus definitively like in *Idaea eremica*, clearly different from that of *Idaea fittkaui*! Habitus well corresponding to that of *Idaea eremica* from the Iran. Both the latter features separate the Omanese populations from *Idaea hathor* (Egypt, Israel). Preliminarily they have to be drawn to *Idaea eremica*.

Fig. 1: *Microbaena pulchra minor* HAUSMANN, 1996, ♀ genitalia, with 7th sternite.
Fig. 2: *Idaea granulosa triangulifera* subsp.n., ♀ genitalia.
Fig. 3: *Idaea gallagheri* WILTSHIRE, 1983, ♂ genitalia.
Fig. 4: *Idaea gallagheri* WILTSHIRE, 1983, ♀ genitalia. (All Figures: Scale bar = 1 mm)

Brachyglossina rowlandi WILTSHIRE, 1977
(Fig. 5)

Brachyglossina rowlandi WILTSHIRE, 1977: Journ. Oman Stud. Spec. Rep.: 166, pl. 4, gen.fig. 6 (loc. typ.: Khasab, Musandam Peninsular, N. Oman)

Endemic in the N. Oman. Original description basing on the ♀ holotype only, ♂ genitalia can be figured for the first time.

Brachyglossina sciasmatica Brandt, 1941, from S. Iran is probably conspecific, as the original description and the illustration (pl. 28, fig. 8) suggest. Since the types of *Brachyglossina sciasmatica* are still unexamined, *Brachyglossina rowlandi* must preliminarily remain the correct species name for the Omanese populations.

Brachyglossina sonyae Wiltshire, 1990
(Figs. 6, 7)

Brachyglossina sonyae Wiltshire, 1990: Fauna of Saudi Arabia 11: 117, fig. 502, 529, 530 (loc. typ.: Al Lawz, NW. Saudi Arabia)

In the Oman restricted to the Dhofar mountains.

Brachyglossina sonyae, *Brachyglossina staudingeri* Prout, 1932, and *Brachyglossina williamsi* Wiltshire, 1949, are very closely related to each other. In ♂ and ♀ genitalia there are very small differences only.

Brachyglossina sonyae from S. Oman is characterized by the dark colour of the wings, the clear and well contrasted markings, the black frons, relative length ♂ hindtibia/tarsus 1.3-1.5/0.5-0.6 mm. In ♂ genitalia uncus almost bifurcate, length of aedeagus about 1.20 mm, with three cornuti, exceptionally four (one of four genitalia slides). There are no differences to the description of *Brachyglossina sonyae* from NW Saudi Arabia.

Brachyglossina staudingeri from Israel is much brighter (yellow) in wing colour, markings vague. Frons brown, relative length ♂ hindtibia/tarsus 1.5-1.6/0.7-0.9 mm. In ♂ genitalia uncus more rectangularily cut, length of aedeagus about 1.05-1.10 mm, with three (60 %) or four (40 %) cornuti.

The female of *Brachyglossina williamsi* from E. Egypt, Sinai, is still unknown: The female paratype figured in Wiltshire, 1949, is misidentified, its true identity is *Idaea improbata* (Staudinger, 1897). Specific separation from *Brachyglossina staudingeri* has to be checked again. According to Wiltshire (1990: 118) aedeagus with two cornuti only, perhaps an individual aberration. One male from S. Jordan – determined as *Brachyglossina williamsi* in Hausmann (1991) – with three cornuti, brownish frons, and tarsus very short: relative length ♂ hindtibia/tarsus 1.5/0.4 mm!

Scopuloides origalis (Brandt, 1941)

Glossotrophia origalis Brandt, 1941: Mitt. Münchn. Ent. Ges. 31: 868, Fig. 29/7 (loc. typ.: by Sardze, S. Iran)

The male differential features of the nominate subspecies of *Scopuloides origalis* with respect to the other subspecies and species of the genus can be confirmed (see Hausmann 1994: 201): sacculus very broad, tip of left ceras very long a.s.o.. Even in wing colour and wing pattern well corresponding to the S. Iranian populations.

Scopula nepheloperas (Prout, 1916)
(Figs. 8, 9)

Acidalia (Pylarge) nepheloperas Prout, 1916: Proc. Zool. Soc. London 1916: 150 (loc. typ.: Somaliland)

Genitalia of both ♂ and ♀ are figured, since the illustrations of this species in Prout (1933: fig. 6k) and Wiltshire (1980a: fig. 9) are hardly valuable for a correct identification.

Scopula nubifera sp.n.
(Figs. 10, 11)

Scopula nigrinotata: sensu Wiltshire 1980 nec Warren, 1897
Scopula luridata: sensu Wiltshire, 1990 partim nec Zeller, 1847
Holotype: ♂, S. Oman, Dhofar Region, Ain Hamran, 150 m, 20.VII.1995, leg. B. Skule, coll. ZSM, gen.prp. G 8434.
Paratypes: 1♂1♀, id.; 2♂1♀, id., coll. B. Skule.

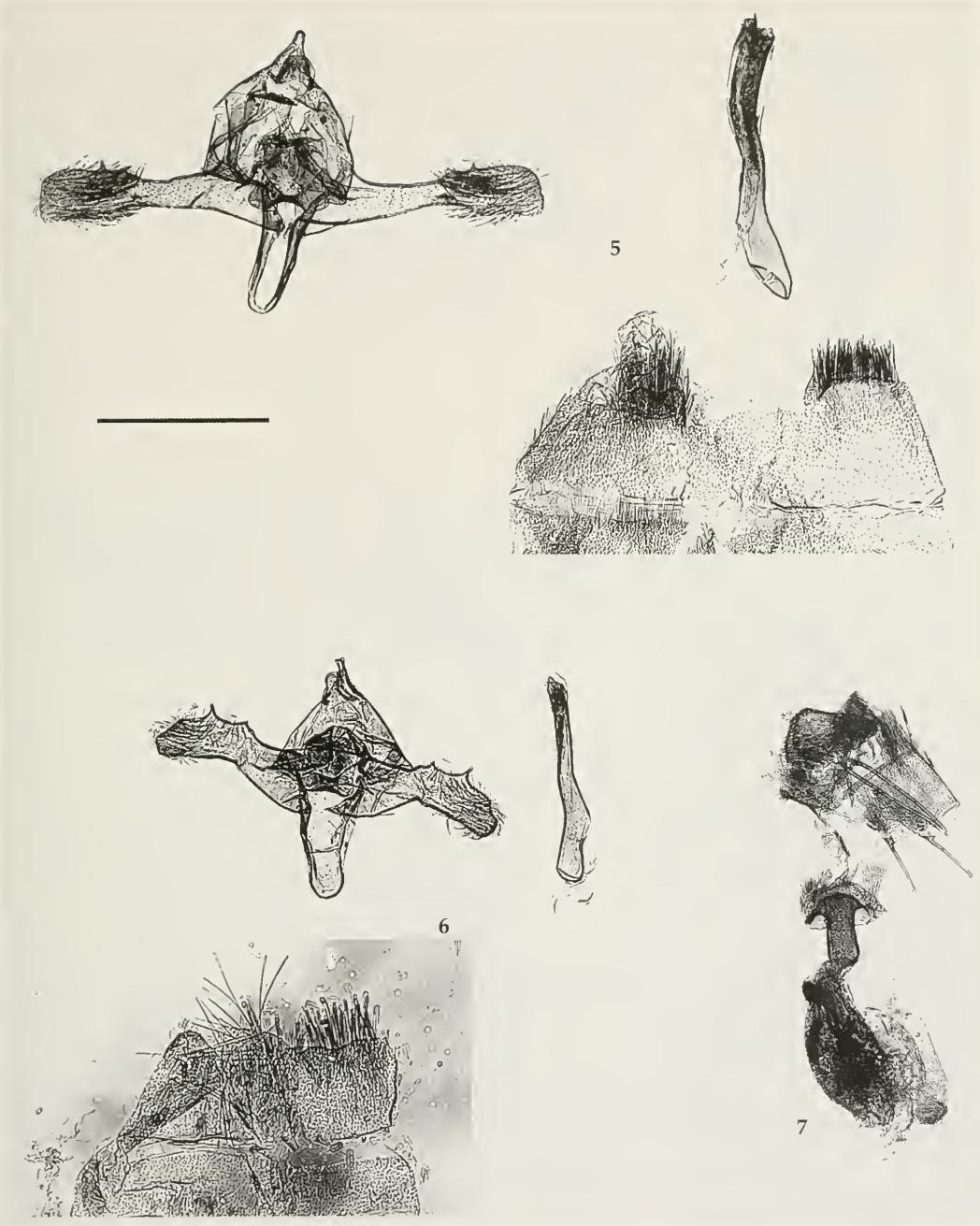

Fig. 5: *Brachyglossina rowlandi* WILTSHIRE, 1977, ♂ genitalia, with sternite and tergite 8.
Fig. 6: *Brachyglossina sonyae* WILTSHIRE, 1990, ♂ genitalia, with sternite and tergite 8.
Fig. 7: *Brachyglossina sonyae* WILTSHIRE, 1990, ♀ genitalia.

Description. Ground colour whitish ochreous. All markings dark grey. Forewing with antemedian line and median shade expressed in the costal spot only. On all the wings postmedian line sharp and dentate, greyish terminal shade distinct, black cell spot well marked. Hindwing with strongly marked median shade forming a semicircle around the cell spot. Frons dark grey, towards tongue white. Tongue well developed, length about 3 mm. Palpi dark grey, on the underside with some white scales, slender and pointed, length in both sexes about 0.6-0.8 mm (=diameter of eye). Antenna of ♂ ciliate, length of cilia about 1.3-1.5 times width of flagellum, antenna of ♀ simple, cilia almost lacking, length about 0.5 times width of flagellum. Hindtibia of ♂ with stout whitish pencil, which is slightly longer than the tibia. Relative length ♂ hindtibia/tarsus 2.5/2.0 mm.

♂ genitalia: Socii long and slender, length 0.3 mm, distance 0.25 mm. Tegumen elongate. Valva slender. Fibula strongly scleotised, slender, long and tapering. Aedeagus very slender, without particular structure details, length ca. 1.2 mm. Sternite 8 with semicircle basal projection, mappa rectangular, very long and narrow, left ceras short and stout, somewhat outstanding, right ceras long, exceeding length of mappa.

♀ genitalia. Apophyses posteriores 0.9 mm, apophyses anteriores 0.6 mm, both rather narrow. Ductus bursae very long and narrow, length about 1.3 mm, near ostium bursae sclerotised. Corpus bursae ball-shaped, on the surface with numerous very small spines. About ¼ of corpus bursae near ductus bursae without spines. Vaginal plate (lamella antevaginalis) strongly sclerotised, round with two lateral chitinous plates, the upside down turned part on the oral side flat and rounded.

Diagnosis. This new species ressembles *Scopula omana* Wiltshire, 1977 from N. Oman. It can be distinguished by the darker cell spots and the darker median shade of the hindwing. In the male genitalia of *Scopula omana* aedeagus much shorter, both cerata of sternite 8 short, mappa short, caudal margin rounded. *Scopula luridata* (Zeller, 1847), *Scopula nigrinotata* (Warren, 1897) and a third undescribed species, all of them occurring sympatrically in Yemen differ from the new species by longer cilia of the male antenna (twice width of flagellum), hindtarsus of male not shortened. In the male genitalia of *Scopula luridata* both cerata are long, in *Scopula nigrinotata* the semicircle basal projection of sternite 8 is lacking. In the female of *Scopula luridata* the upside down turned part of the vaginal plate rectangular, corpus bursae larger, longer and therefore oval.

Scopula similata (Le Cerf, 1924), stat.n. from Erythrea must be transferred from *Glossotrophia* to *Scopula*. Genitalia of the type of *similata* have been studied by Mr. C. Herbulot, Paris, who kindly sent me a drawing. *Scopula similata* differs genitalically from the new species mainly by its more rudimentary and terminally more rounded left ceras and the mappa, which is shorter, much broader and caudally rounded. The original description and illustration of the wing pattern of *Scopula similata* would suggest conspecifity with *Scopula luridata*. The first perhaps is not more than a genitalic aberration from the latter.

Remarks. *Scopula nubifera* sp.n. belongs to the subgenus *Ustocidalia* and should be inserted between the species *Scopula luridata* and *Scopula omana*. Records of this new species from S. Oman have been published under the names *Scopula nigrinotata* (Wiltshire, 1980) and *Scopula luridata* (Wiltshire, 1990).

Scopula lactaria qaboosi subsp.n.
(Fig. 12)

Holotype: ♂, N. Oman, Al Hail, 7 km E. Seeb, 23.XII.1992, 0 m, leg. B. Skule, coll. ZSM, gen. prp. G 8461.

Description. Forewing length 7.7 mm. Wing colour ochreous, with a few black scales only. Wing pattern brightly brown, ressembling much to the pattern of *Scopula minorata* (Boisduval, 1840). Black cell spots small, sharp. Postmedian line in both wings dentate. Frons black, towards tongue whitish. Length of tongue 3 mm. Palpi with whitish and dark brown scales, length about 1.5 times diameter of eye. Male hindtibia slightly dilated, with pencil; relative length ♂ hindtibia/tarsus 1.3/2.0 mm. Antenna ciliate, length of cilia = width of flagellum.

Diagnosis. Nominate subspecies of *Scopula lactaria* (Walker, 1861) with slightly longer cilia in ♂ antennae: 1.2-1.5 times width of flagellum. Wing colour whitish with pattern more yellowish. Nigerian populations with genitalia much ressembling to the Omanese male, however 8th sternite polymorphic: Some specimens with half developed cerata as figured in Janse (1934: fig. 57), others with both cerata fully developed, length nearly two times length of mappa. But never the cerata are as straight as in the Omanese male. Caudal notch of mappa in Nigerian populations much deeper.

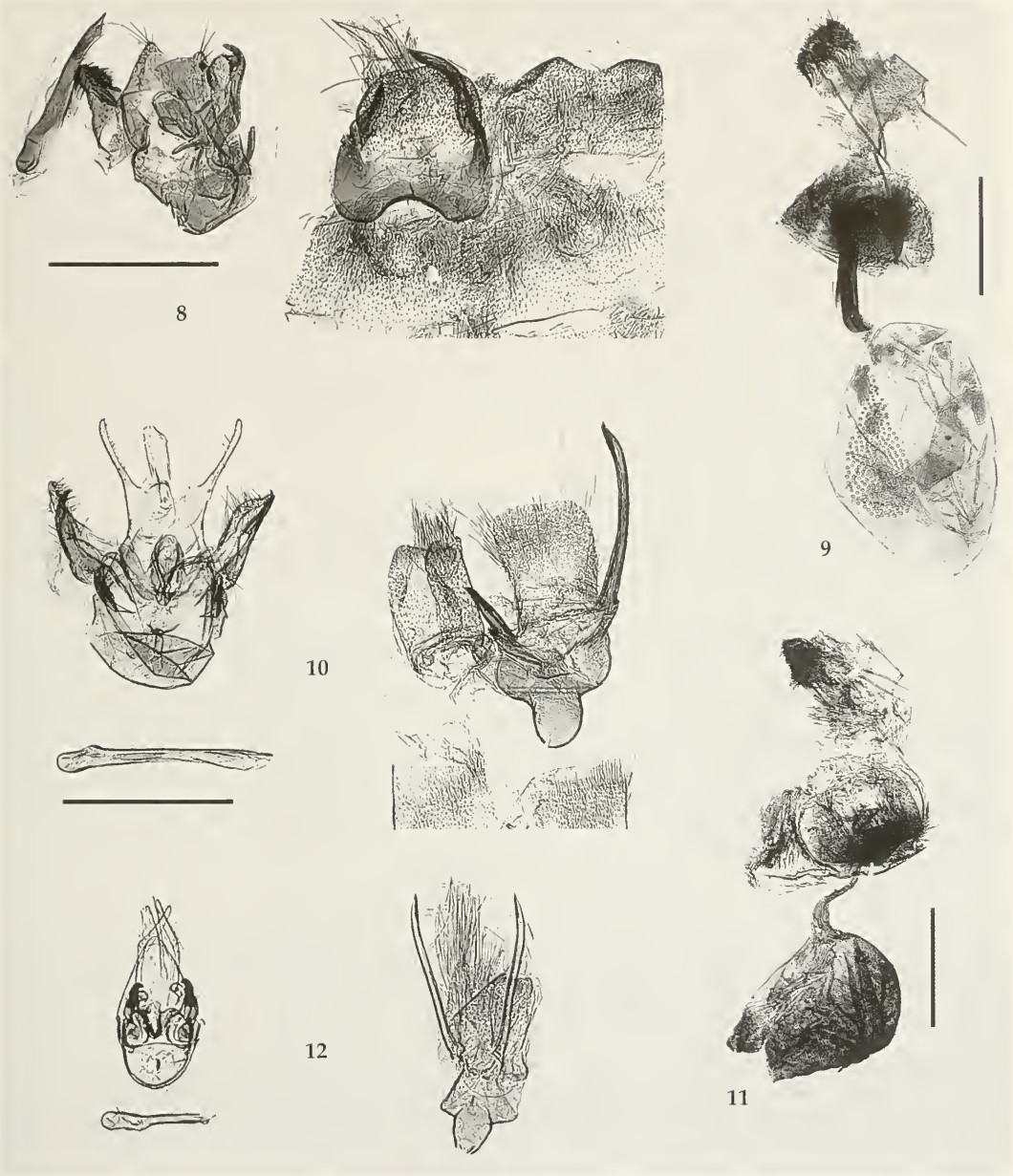

Fig. 8: *Scopula nepheloperas* (Prout, 1916), ♂ genitalia, with sternite and tergite 8.
Fig. 9: *Scopula nepheloperas* (Prout, 1916), ♀ genitalia.
Fig. 10: *Scopula nubifera* sp.n., ♂ genitalia, with sternite and tergite 8.
Fig. 11: *Scopula nubifera* sp.n., ♀ genitalia.
Fig. 12: *Scopula lactaria qaboosi* subsp.n., ♂ genitalia, with sternite and tergite 8.

Remarks. Even *Scopula subserena* Wiltshire, 1990, from W. Saudi Arabia could be a genitalic variation of *Scopula lactaria*. Preliminarily its status should not be changed, because asymmetrical cerata and socii as broad as shown in Wiltshire (1990: fig. 532) could justify (sub-)specific separation, when revealing as a constant feature.

Devoted to his majesty Sultan Qaboos bin Said, for his remarkable merits in supporting environmental research in the Oman.

Scopula adelpharia (Püngeler, 1894)

Acidalia adelpharia Püngeler, 1894: Stett. Ent. Zeit. 55: 76 (loc. typ.: by Jerico, Palestine)

To date only the form with long symmetrical cerata (sternite 8 of ♂) could be found. Therefore the N. Omanese populations show closer affinities to the nominate subspecies (Type locality: Jerico, Palestine). In S. Israel, Egypt and Sudan ("subsp. *pharaonis* Sterneck, 1933") this form competes in a polymorphic way with another form, which has both cerata unequally shortened, the latter form being commoner than the "normal" one.

Glossotrophia chalcographata Brandt, 1938

Glossotrophia chalcographata Brandt, 1938: Ent. Rdsch. 55 (49): 574, figs. 234-237 (loc. typ.: Fort Mian Kotal, Iran)

From the Oman only one ♀ could be examined. This is much darker than specimens from S. Iran. *Glossotrophia adenensis* Wiltshire, 1986, from Yemen, having genitalia almost identic to those of *Glossotrophia chalcographata* should perhaps be better downgraded to subspecies rank of *Glossotrophia chalcographata*. With more material constancy of habitual differential features should be checked.

Glossotrophia disparata (Hampson, 1903)
(Fig. 13)

Craspedia disparata Hampson, 1903: in Forbes: Nat. Hist. Sokotra: 332, pl. 20, fig. 18 (loc. typ.: Sokotra)

Two very small lowland specimens show the same characteristic round and short basal projection of the 8th sternite, typical for *Glossotrophia disparata* and its subspecies *Glossotrophia disparata somaliata* Prout, 1916. Even habitually well corresponding.

Glossotrophia gracilis Brandt, 1941

Glossotrophia gracilis Brandt, 1941: Mitt. Münchn. Ent. Ges. 31: 869, Fig. 29/5 (loc. typ.: Bender Tchahbahar, Iran)
Glossotrophia alfierii: sensu Wiltshire, 1980 nec Wiltshire, 1949
Glossotrophia alfierii: sensu Wiltshire, 1990 (partim) nec Wiltshire, 1949

All specimens from N. Oman with one spur on the ♂ hindtibia without exceptions (n=17♂♂). Length of tongue 3.5-4.5 mm. Considerable seasonal dimorphism could (erroneously) suggest the occurrence of two or three different species: All winter specimens from sea levels of 0-1100 m SL with wings sandy coloured, length of forewing 8.1-10.3 mm; all specimens caught in July in levels about 2000 m SL more whitish coloured, length of forewing 6.8-8.4 mm. April-specimens from the high mountains in wing colour intermediate, length of forewing 7.4-9.6 mm. There are however no structural differences correlated with these sesonal forms. Furthermore infrapopular individual variability concerning wing colour, wing pattern is rather high.

Comparing the Omanese populations with both *Glossotrophia alfierii* Wiltshire, 1949, from Egypt, and *Glossotrophia gracilis* Brandt, 1941, from the Iran, their habitus better match the Iranian species. Venation of forewing as in *Glossotrophia gracilis* (see Hausmann 1993: 102): Origin of R1 from accessory cell in 90 % of specimens subterminally, in 10 % terminally; R2-4 and R5 in 75 % of the specimens (distinctly) stalked, in 25 % unstalked. *Glossotrophia alfierii* is closely related to *Glossotrophia gracilis* and perhaps better to be considered subspecies of the latter.

Problepsis ocellata cinerea (Butler, 1886), stat. nov.
(Figs. 14, 15)

Argyria cinerea Butler, 1886: Proc. Zool. Soc. London 1886: 387, pl. 35, fig. 8 (loc. typ.: Campbellpur, N. Pandschab, C. Pakistan)

Problepsis ocellata cinerea, described from C. Pakistan, has to be raised from synonymy (see Prout 1913: 49; Prout 1938: 187; Wiltshire 1977: 156) to subspecies rank: Specimens from Pakistan slightly darker than in the nominate subspecies; in ♂ genitalia 8th sternite and uncus more slender; spinulous tip of aedeagus less inwards curved than in nominate subspecies. ♀ genitalia with ductus bursae longer and more slender (mainly orally), signum bursae covering about ¾ of corpus bursae (in nominate subspecies about ½). Omanese populations in ♂ and ♀ genitalia well corresponding to populations from Pakistan, but wing colour much darker. Preliminarily to be attributed to this subspecies.

Problepsis ocellata cinerea, which was cancelled from the fauna of Pakistan by Prout (1938: 187) has to be re-established for the fauna, since I was able to check a long series from various localities (coll. Weigert). *Problepsis asira* Wiltshire, 1982 from SW Saudi Arabia clearly differs in male genitalia e.g. by shorter fibula and shorter sternite 8.

Problepsis erythra Wiltshire, 1982
(Fig. 16)

Problepsis erythra Wiltshire, 1982: Fauna of Saudi Arabia 4: 298, fig. 20c (loc. typ.: Elaberet, Eritrea)

To date this species is known in two specimens only! The holotype has been described from Eritrea, about 1.500 km west from the new locality in S. Oman. The species is characterized by postmedian lines, which are almost missing on all the wings, terminal spots larger than in *Problepsis ocellata*, of unequal size, the large cell (eye) spots filled darker than in *Problepsis ocellata*, and by the small second eye spot at the inner margin of the forewing. ♀ genitalia differing from those of *Problepsis ocellata* by shape of signum bursae which is developed as a single linguiform plate of about ½ length of corpus bursae, ductus bursae more slender.

Rhodostrophia skulei sp.n.
(Figs. 17, 18)

Rhodostrophia cuprinaria: sensu Wiltshire 1977 nec Christoph, 1877
Holotype: ♂, N. Oman, Jabal Shams, 19 km NW Al Hamra, 1100 m, 7.I.1993, leg. Skule, coll. ZSM, gen.prep. G 8774. Paratypes: 3♂4♀, id.; 1♂, id., coll. Skule; 3♂, N. Oman, Jabal Shams, 35.4 km NW Al Hamra, 2050 m, 5.IV.1993, leg. et coll. Skule; 2♂, N. Oman, Wadi Abyad, 350 m, 1.IV.1993, leg. Skule coll. ZSM; 1♂, N. Oman, Wadi Al Khawd, 20 km S. Seeb, 100 m, 29.III.1993, leg. et coll. Skule; 1♀, id., 30.XII.1992; 1♀, N. Oman, Wadi Muaydin, 750 m, 6.IV.1993, leg. et coll. Skule; 2♀, N. Oman, Jabal Akhdar, near Saiq, 2000 m, 12.-13.VII.1995, leg. et coll. Skule. 1♂, N. Oman, Musandam, 27.II.1979, leg. Larsen, coll. Wiltshire; 1♂, N. Oman, Musandam, 27.II.1979, leg. Larsen, coll. Wiltshire; 1♀, N. Oman, Musandam, Aqabat, 1100 m, leg. Legrain, coll. Wiltshire; 1♀, N. Oman, 10 km NE. Al Khamil, 170 m, 26.-27.I.1997, leg. Skule, coll. ZSM.

Description. Forewing length ♂ 10.2-12.9 mm, ♀ 11.8-14.8 mm. Wing colour copper-coloured in the winter generation (XII-I) and in one specimen from July, sandy-ochreous in the spring generation (III-IV). Wing pattern fairly vague, postmedian line – when visible – rather straight; antemedian line hardly visible, straight and not inwardly projecting at ½. Costa of forewing and basis of hindwing bright, the broad terminal band of hindwing much darker; discal spot vague. Underside of all wings with cell spot and dark brown terminal band, fringes brightener. Frons strongly prominent, ochreous, the upper part often darker; palpus ochreous, length about 1.2 times diameter of eye; ♂ antenna bipectinate, longest branches 0.50-0.55 mm, ♀ antenna scarcely ciliate, length of cilia ⅔ width of flagellum; ♂ hindtibia not dilated with three spurs, the proximal one being long, the distal ones shorter, hind tarsus not shortened, ♀ hindtibia with four spurs, both proximal and distal spurs of unequal length.

Size of ♂ genitalia like that of *Rhodostrophia cuprinaria*. Shape of valva similar; basal projection of valva lacking, valva distally broad, rectangularily cut, with numerous spines; juxta (invertedly) mushroom-shaped, without spinulous lobes; aedeagus strongly bent, cornutus very short and broad. ♀ genitalia with long lateral projections beside ostium bursae, lamella antevaginalis divided into two trianguliform plates; corpus bursae cylindrical, with two band-shaped signa (length about ⅕ corpus bursae).

Diagnosis. Genitalia reveal close relationship to *Rhodostrophia cuprinaria* (Armenia-Afghanistan), however the latter differing from the new species in ♂ genitalia by having a spinulous basal projection on the costa of the valva, only a very few small spines on the distal part of the valva, aedeagus with cornutus longer and more slender than in *Rhodostrophia skulei* sp.n.; in ♀ genitalia chitinisation of lamella antevaginalis more rounded; wing pattern of *Rhodostrophia cuprinaria* sharper, postmedian line curved, inwardly projecting at M1 vein, antemedian line inwardly projecting at ½. Costa of forewing and basis of hindwing more or less of the same colour than the rest; discal spot sharp and clearly visible. Underside with dark terminal band distally a thin yellow terminal line and fringes much darker. Branches of ♂ antenna slightly shorter (0.45-0.50 mm). *Rhodostrophia peripheres* Prout, 1938 (N. Iran) and *Rhodostrophia peripheres debilis* Wiltshire, 1949, (S. Iran) with genitalia twice as large as in the new species, juxta heart-shaped with spinulous lobes, valva distally tapering and without spines, aedeagus with one very long and slender cornutus.

Devoted to Bjarne Skule, Rødovre, Denmark, the excellent collector of this interesting material from the Oman for his great merits in the lepidopterologic exploration of this poor known country. The author is deeply indebted to Bjarne Skule for his kind and friendly collaboration.

Anisephyra sublutearia Wiltshire, 1977

Anisephyra sublutearia Wiltshire, 1977: Journal of Oman Studies, Special Report 1: 155, fig. 2, pl. 1, pl. 3 (loc. typ.: Ghawr, N. Oman)

See remarks to *Anisephyra reducta*.

Anisephyra reducta Wiltshire, 1980

Anisephyra reducta Wiltshire, 1980: Journal of Oman Studies, Special Report 2: 192, fig. 3a/b, pl. A, B (loc. typ.: Ayun pools, Dhofar Prov., S. Oman)

According to the genitalia of both ♂ and ♀ this genus belongs to the tribe Cosymbiini and has to be placed between the genera *Pseudosterrha* and *Chlorerythra* at the end of this tribe. Since uncus is (almost) lacking, caudal projection of lamella postvaginalis (♀ genitalia) is very long, and Sc+R1 of hindwing is anastomosing with Rs in one point only, the genus seems to be closer related to *Chlorerythra*. The strongly developed socii, the lacking uncus and the shape of the valva are also reminiscent to the tribe Timandrini.

Nebula saidabadi (Brandt, 1941), comb. n.
(Figs. 19, 20)

Cidaria (*Coenotephria*) *saidabadi* Brandt, 1941: Mitt. Münchn. Ent. Ges. 31: 874 (loc. typ.: Sardze, Laristan, S. Iran)

Frons prominent, whitish, often with grey scales; palpus dark grey, length about 1.0 to 1.2 times diameter of eye; ♂ antenna ciliate, longest cilia about 1.5 times width of flagellum, ♀ antenna similarily ciliate, length of cilia = width of flagellum; hindtibia of both sexes not dilated with four spurs.

♂ genitalia with long labides, shape of valva and uncus perfectly agreeing with the concept of the genus *Nebula*. ♀ genitalia with chitinised ribbon near ostium bursae, long and slender ductus bursae, shape of signum bursae perfectly agreeing with the concept of the genus *Nebula*.

Underside of Omanese *Nebula saidabadi* reminiscent to that of *Xanthorhoe rhodoides* (Brandt, 1941) from S. Iran (loc. typ.: Sardze). According to Brandt (l.c.) however the structure of antenna of *Xanthorhoe rhodoides* (both ♂ and ♀) corresponds to that of *Xanthorhoe peribleta* (Brandt, 1941) and *Xanthorhoe wiltshirei* (Brandt, 1941), both of them having ♀ antennae simple and very scarcely ciliate only. ♂ genitalia of

Fig. 13: *Glossotrophia disparata* (Hampson, 1903), ♂ genitalia, abdomen with sternite 8 only.
Fig. 14: *Problepsis ocellata cinerea* (Butler, 1886), ♂ genitalia, with sternite 8.
Fig. 15: *Problepsis ocellata cinerea* (Butler, 1886), ♀ genitalia.
Fig. 16: *Problepsis erythra* Wiltshire, 1982, ♀ genitalia.

"*X. rhodoides*" from N. Oman figured by Wiltshire (1988: fig 3) perhaps refer to *Xanthorhoe wiltshirei*. In this figure, the aedeagus has been disrupted; parts of it remained with the rest of the genitalia. Therefore the occurrence of *X. rhodoides* in Oman waits for confirmation.

Phaselia erika Ebert, 1965

Phaselia erika Ebert, 1965: Stuttg. Beitr. Naturk. 142: 17, pl. 1, fig. 15 (loc. typ.: Sarobi, E. Afghanistan)
Phaselia deliciosaria: sensu Wiltshire, 1990 nec Lederer, 1855

One female examined from the Northern Oman matches well *Phaselia erika* from Afghanistan and SE. Iran. It differs from *Phaselia deliciosaria* (Lederer, 1855) mainly in the forewing: ground colour more greyish, postmedian line less dentate, median tooth of antemedian line very prominent.

Tephrina pulinda deerraria Walker, 1861

Tephrina deerraria Walker, 1861: List. Spec. Lep. Ins. Coll. Brit. Mus. 23: 962. (loc. typ.: Cape Prov., S. Africa)

The populations examined from the Dhofar mountains (S. Oman) are characterized by the reddish postmedian line and the very dark marginal area of all wings. ♂ and ♀ genitalia however well corresponding to the figures in Wiltshire (1980: 17, 17a) and several populations from C. and N. Africa examined by the author. In female genitalia differential diagnosis to *Tephrina philbyi* Wiltshire, 1980 should be precised and completed. With regard to the recent records of *Tephrina pulinda deerraria* from Salalah (Dhofar mountains, S. Oman) and the hitherto lacking record of this species for the Oman in the extensive studies of Wiltshire, I suggest, that Wiltshire's (1990: 135) "*Tephrina philbyi*" (one ♀) from Salalah is misidentified and belongs to *Tephrina pulinda deerraria*. However *Tephrina philbyi* preliminarily should not be deleted from the Fauna until the specimen is re-examined.

Dicrognophos orthogonius (Wehrli, 1939)
(Fig. 21)

Gnophos orthogonia Wehrli, 1939: Mitt. Münchn. Ent. Ges. 29: 72 (loc. typ.: Taschteba, Schiras, S. Iran)
Gnophos ? "near *chorista*": Wiltshire, 1985

One pretty specimen examined from the Oman. Genitalia (♂) exactly corresponding to the description in Wehrli (1953: 378) for *Dicrognophos orthogonius* (Wehrli, 1939), which is the genotype of *Dicrognophos* (see generic description in Wehrli, l.c.). Habitually somewhat reminiscent to the figure of *Dicrognophos orthogonius* (Wehrli, 1939) in Wehrli (1953: fig. 48a), but darker, evenly resembling the figure of *Dicrognophos brandtorum* (Wehrli, 1941), but shape of forewings more slender. Postmedian line on the underside of the forewing basally from cell spot, on hindwing touching cell spot, rectangularily curved. Frons black; length of palpus about 1.3 times diameter of eye; ♂ antennae with long cilia, their length nearly twice width of flagellum; hindtibia slightly dilated, with four short spurs and basal pencil.

Since some species are described on the basis of single specimens (even females), the whole genus needs taxonomical revision. Shape of sacculus and conglomerate of cornuti probably indicate relationships to the genus *Ortaliella* Hausmann, 1993. Therefore transfer of *Dicrognophos* into Semiothisini should be discussed.

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Fig. 17: *Rhodostrophia skulei* sp.n., ♂ genitalia, with sternite and tergite 8.
Fig. 18: *Rhodostrophia skulei* sp.n., ♀ genitalia.
Fig. 19: *Nebula saidabadi* (Brandt, 1941), ♂ genitalia.

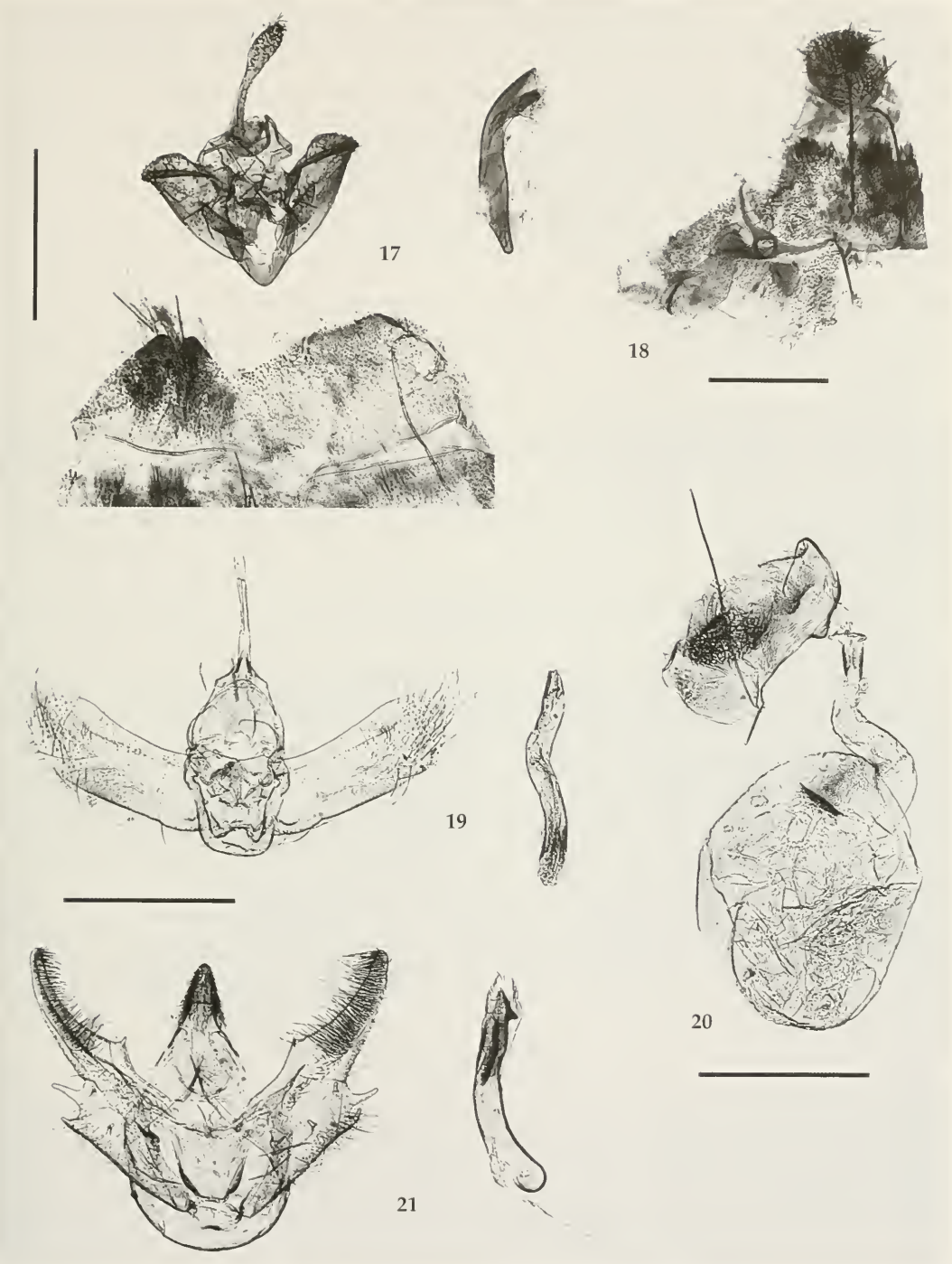

Fig. 20: *Nebula saidabadi* (Brandt, 1941), ♀ genitalia.
Fig. 21: *Dicrognophos orthogonius* (Wehrli, 1939), ♂ genitalia.

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