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New and interesting geometrid moths from Dhofar, southern Oman

(Lepidoptera, Geometridae)

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Abstract

New and interesting records of 50 Geometridae species from Dhofar, southern Oman, are presented. The taxonomical analysis is based on both morphological and molecular traits. Three species and five subspecies are described as new: *Idaea mimetes kruegeri* **ssp.n.**, *Scopula morandinii* **sp.n.**, *Scopula nepheloperas aidasi* **ssp.n.**, *Scopula alhamrensis* **sp.n.**, *Scopula colymbas pasii* **ssp.n.**, *Scopula proverai* **sp.n.**, *Somatina pythiaria nigrimacula* **ssp.n.**, and *Lhommeia subapicata omanirufa* **ssp.n.**. *Gnophosema leucites* Wiltshire, 1980, **stat. n.** is raised from subspecies of *G. isometra* (Warren, 1888) to species rank. *Glossotrophia adenensis* Wiltshire, 1986 is downgraded from species rank to synonymy of *Scopula chalcographata* (Brandt, 1938). *Glossotrophia buraimana* Wiltshire, 1949 is downgraded from species rank to synonymy of *Scopula alfierii* (Wiltshire, 1949) **syn. nov.**. The following 20 species are new for the fauna of the Oman: *Microloxia ruficornis* Warren, 1897, *Idaea tahamae* Wiltshire, 1983, *Idaea damadensis* Wiltshire, 1986, *Idaea eremica* (Brandt, 1941) (aside sister species *Idaea hathor* (Wiltshire, 1949), *Brachyglossina tibbuana erythra* Wiltshire, 1990, *Scopula subgastonaria* Wiltshire, 1982, *Scopula morandinii* **sp.n.**, *Scopula colymbas pasii* **ssp.n.**, *Scopula proverai* **sp.n.**, *Scopula uvarovi* (Wiltshire, 1952), *Scopula ochrea* (Hausmann, 2006), *Pseudosterrha colettae* Hausmann, 2006, *Pseudosterrha paulula* (Swinhoe, 1886), *Eupithecia maerkerata* Schütze, 1961, *Eupithecia ultimaria* (Boisduval, 1840), *Zamarada latilimbata* Rebel, 1948, *Heterostegane serrata* (Fletcher, 1958), *Platypepla arabella* Wiltshire, 1983, *Chiasmia assimilis* (Warren, 1899), and *Oreometra fifae* Wiltshire, 1986. With these results the geometrid fauna of the Oman increases to a total of 102 species.

Introduction, material and methods

The geometrid fauna of the Oman was subject of a few previous articles (Wiltshire 1977; 1980; 1985; 1988; Hacker & Hausmann 1999). Parts of an interesting sample of Bjarne Skule, Denmark were analysed and discussed in Hausmann (1998). New and ample material of Geometridae from Dhofar, southern Oman has been collected in the years of 2006 and 2007 by Aidas Saldaitis (Vilnius Lithuania) and Juergen Krueger (Bilovec, Czech Republic), yielding a total of 48 species. Label data (with coordinates added in parentheses) are as follows:

Dhofar, 20km SW. from Al Mughsayl (16,7953 N, 53,65 E), 640m, 8.-24.VII.2007
Dhofar, Slopes to Arabian Sea (Camels) W. from Salalah, 20 km W. from Al Mughsayl (16,7953 N, 53,65 E), 640m, 8.-24.VII.2007
Dhofar, Al Mughsayl riv. valley W. from Salalah (16,7953 N, 53,65 E), 70m, 8.-24.VII.2007
Dhofar, Wadi Almagshayl [Al Mughsayl], 70m (16,7953 N, 53,65 E), 19.-22.XI.2006
Dhofar, Al Mughsayl env., (s. valley) W. from Salalah (16,7953 N, 53,65 E), 215m, 15.VII.2007
Dhofar Mts., Khubrart (Tiger) N.E. from Salalah (17,2167 N, 54,3167 E), 900m, 8.-24.VII.2007
Dhofar, Wadi Razat (17,217 N, 54,317 E), 770m, 21.IX.2006
Dhofar Mts., Madinat al Hagg (Jungle) N.E. from Salalah (17,1667 N, 54,2333 E), 560m, 8.-24.VII.2007

Paratypes of all newly described species are divided between ZSM, coll. A. Saldaitis (Vilnius, Lithuania), coll. A. Exposito (Mostoles, Spain) and coll. J. Krueger (Bilovec, Czech Republic).
Some additional material from Dhofar Mts., collected by L. Dapporto (Prato, Italy) could be included into the study, raising the size of the sample from 48 to 50 species.

Species identification was performed by both morphometrical (incl. dissections, standard method) and molecular analysis. The latter was based on a representative selection of 116 specimens examined with a mtDNA-marker, the COI 5' barcode fragment. Quality of material and laboratory work at CCDB, University of Guelph (Paul Hebert) using standard high-throughput protocol (Ivanova et al. 2006) were that excellent to get 108 out of 116 specimens successfully sequenced to the complete fragment length of approx. 658 bp, except for two barcodes of approx. half length. Sequences were analysed using Barcode of Life Data Systems (BOLD; Ratnasingham & Hebert 2007) and MEGA4 (Tamura et al. 2007).

Images, neighbor joining tree, and further details such as voucher hosting institution, GPS coordinates and trace files can be obtained online from BOLD (2008), and from the webpage of the geometrids of the Oman (Hausmann et al. 2009). That strategy of multimedial publication was chosen for accelerating taxonomy (see Hausmann & Hebert 2009; Hausmann et al. 2009a; 2009b).

Abbreviations and conventions

ZSM = Bavarian State Collection of Zoology; SO = southern Oman, Dhofar (newly collected material of Aidas Saldaitis); UAE = United Arab Emirates; gen.prp. = genitalia preparation slide no.. - The terms 'sequence variation' and 'genetic difference' refer to the analysis of the COI 5' barcode fragment (658 bp) with Kimura 2 Parameter. Genetic distances are given in % minimum pairwise distance, infraspecific genetical variation in % maximum pairwise distance.

Systematic account

Geometrinae

Pseudoterpnini

Pingasa lahayei (Oberthür, 1887)

Populations from SO showed no genetic difference from examined populations of Yemen.

Comibaenini

Microbaena pulchra minor Hausmann, 1996

Populations from SO showed no genetic difference from examined populations of Yemen.

Victoria omanensis (Wiltshire, 1980)

Omani *V. omanensis* showed comparatively low genetic distance from both Saudi Arabian *V. fifensis* Wiltshire, 1994 (0.5%) and *V. eremita* Hausmann, 1993 examined from Egypt and Israel (1.0%). Infraspecific sequence variation is very low for all three taxa. Since there are valuable constant differential features in genitalia (Hausmann 1993; Wiltshire 1994), the three taxa are maintained as valid at species rank.

Hemistolini

Gnophosema leucites Wiltshire, 1980, **stat. n.**

Large genetic distance (5.4%) between *Gnophosema leucites* from Dhofar mountains and congeneric populations ('*isometra*') examined from northern Oman. Infraspecific sequence variation low in both populations (0.1-0.5%, n=4). *Gnophosema leucites* differing from *G. isometra* (Warren, 1888) in slightly different shape of harpe in male genitalia (cf Wiltshire 1980), in the pure white ground colour, and in the missing terminal line of all wings. Therefore, *Gnophosema leucites* is raised from subspecies of *Gnophosema isometra* to species rank (stat.n.).

Comostolini

Eucrostes disparata (Walker, 1861)

Populations from SO showed no genetic difference from examined populations of Yemen.

Hemitheini

Phaiogramma faustinata (Millière, 1868)
Populations from SO showed no genetic difference from examined populations of Yemen, Jordan and Israel.

Neromia pulvereisparsa (Hampson, 1896)
Populations from SO showed no genetic difference from examined populations of Yemen, Egypt, Israel and Jordan.

Microloxiini

Microloxia ruficornis Warren, 1897
New for the fauna of the Oman (20km W Al Mughsayl; Al Mughsayl; leg. A. Saldaitis). Populations from SO showed no genetic difference from examined populations of Yemen, Egypt and Israel.

Hemidromodes sabulifera Prout, 1922
Populations from SO showed no genetic difference from examined populations of Yemen, UAE, Egypt, and Jordan.

Sterrhinae
Sterrhini

Idaea sordida dhofarica Wiltshire, 1986
Nominate subspecies recorded from northern Oman (Saiq, Al Hail, Wadi Abyad) by B. Skule. Genetic distance between *Idaea sordida dhofarica* (SO) and *Idaea sordida* (Rothschild, 1913) examined from Jordan and Israel at medium level (1.2%).

Idaea shaathensis Wiltshire, 1986
Identification verified by dissection of both sexes. Very large genetic distance between *Idaea shaathensis* and the habitually similar species of the *microptera* species-group, e.g. 12.0% difference from *Idaea africarabica* (Wiltshire, 1949) examined from Sokotra. Genetically, the nearest examined neighbour of *I. shaathensis* is *I. illustrior* (Wiltshire, 1952) from Yemen, at a genetic distance of 7.8%.

***Idaea mimetes kruegeri* ssp.n.**
(Fig. 1)

Holotype: ♂, S. Oman, Dhofar, Wadi Almagshayl [Al Mughsayl], 70 m, 19.-22.XI. 2006, leg. A. Saldaitis & J. Krueger, coll. ZSM, DNA barcode BC ZSM Lep 13975; gen.prp. ZSM G 14143.
Paratypes: 22♂♀, id.; 6♂♀, id., 23♂♀, id., 8-24.VII.2007; 39♂♀, id., Al Mughsayl env. (s. valley), 215m, 15.VII.2007; 22♂♀, 20km SW. from Al Mughsayl, 640m, 8-24.VII.2007; 2♂, id., Al Mughsayl dint., 16°53'01" N 53°46'47" E, 13.IX.2002, leg. L. Dapporto; 1♂, id., Rd47 E of Mughsayl, 30m; 1♀, id., Darbat Pool, 220m, 1.IX.2002.

Description: Wingspan 9-11.5 mm. Palpi and frons black. Vertex sand coloured to pale brown. Proboscis developed, length approx. 1.5 mm. Palpi short, length approx. 0.8 times diameter of eye. Antennae of ♂ with filiform flagellum, ciliate-subfasciculate, length of cilia 1.4-1.5 times width of flagellum. Hindtibia of ♂ with large sand coloured pencil, covering nearly the complete tarsus; hindtarsus stout and short, 0.4 times length of tibia. ♀ hindtibia with 2 spurs. Ground colour glossy grey brown, sometimes paler, dark sand coloured. Both wings usually with a vague fine dark grey postmedial line. Medial fascia occasionally dark and broad. Fringe concolorous. Cell spots and fringe dots absent.

Male genitalia: Valva long, spatulate, round at tip. Aedeagus long and narrow, striate at tip, with stout and narrow cornutus, 0.6 times length of aedeagus.

Female genitalia: Ductus bursae membranous, dilating towards antrum and with broadly sclerotised colliculum clasp. Corpus bursae elongate, cuticula with longitudinal forrows and numerous spinules, laterally positioned over the whole length. Corpus bursae posteriorly with a broad sclerite towards ductus seminalis.

Differential diagnosis: Similar to a number of small dark grey species of the *microptera* species-group, but differing in the more glossy coloration of wings and in morphology of genitalia. *I. shaathensis* differs in the darker forewing costa. Nominate subspecies *I. m. mimetes* (Brandt, 1941) from Iran and eastern Arabian peninsula very similar in structure and habitus, but on average larger, wingspan up to 14 mm, transverse lines more vague, ♂ genitalia with gnathos, aedeagus and base of cornutus broader, ♀ genitalia with colliculum narrower, and sclerite towards ductus seminalis smaller.

Molecular diagnosis: Nominate subspecies of *I. mimetes* (Brandt, 1941), examined from UAE, at a genetic distance of 3.0%. Large genetic distance of 7.8% between *Idaea mimetes kruegeri* **ssp. n.** and the habitually similar *Idaea africarabica* (Wiltshire, 1949) examined from Sokotra.

Distribution: So far, the subspecies is known only from Dhofar mountains, southern Oman. Nominate subspecies is distributed in northern Oman, United Arab Emirates and Iran.

Etymology: Dedicated to Juergen Krueger (Bilovec, Czech Republic) for his great merits in scientific collecting of geometrid moths in the Middle East.

Idaea tahamae Wiltshire, 1983
New for the fauna of the Oman (20km W Al Mughsayl, Mughsayl, Khubrart, Madinat al Hagg E Salalah). Identification verified by dissection.

Idaea damadensis Wiltshire, 1986
New for the fauna of the Oman (Khubrart, leg. A. Saldaitis; Darbat Pool, Wadi Darbat, Ain Jarziz, leg. L. Dapporto). Identification verified by dissection.

Idaea hathor (Wiltshire, 1949)
Large genetic distance between *Idaea hathor* from SO and *Idaea eremica* (Brandt, 1941) (5.4%), confirming species right for both. The latter examined from UAE and northern Oman (Skule: Wadi Al Khawd, Wadi Abyad, Wadi Muaydin, Al Hamra), new for the fauna of the Oman. Infraspecific sequence variation within *I. hathor* at 1.0% between populations from SO and Egypt, due to large geographical distance.

Brachyglossina sonyae Wiltshire, 1990
Genetic distance between *Brachyglossina sonyae* from SO and *B. williamsi* (Wiltshire, 1949), examined from Jordan, comparatively low (1.7%). Genitalia of both sexes with very small differences only between both mentioned taxa (Hausmann 1998).

Brachyglossina tibbuana erythra Wiltshire, 1990
New for the fauna of the Oman (20km W Al Mughsayl; Al Mughsayl; leg. A. Saldaitis). Elevated genetic distance between populations from SO and Yemen (2.6%); one specimen from Jordan (new for the fauna of Jordan) genetically identic with Yemenite populations. Male genitalia from populations of the Oman awaiting examination, as the new samples from Dhofar mountains contained only females.

Scopulini

Scopula subgastonaria Wiltshire, 1982
New for the fauna of the Oman (20km W Al Mughsayl; Al Mughsayl, leg. A. Saldaitis; Jabal Samhan, Al Mughsayl, leg. L. Dapporto).

Scopula morandinii sp.n.
(Fig. 2)

Holotype: ♂**,** S. Oman, Dhofar, 20km SW. from Al Mughsayl, 640m, 8-24.VII.2007, leg. A. Saldaitis & J. Krueger, coll. ZSM, DNA barcode BC ZSM Lep 14805; gen.prp. ZSM G 14132.
Paratypes: 3♀, id.; 3♀, id., Al Mughsayl env. (s. valley), 215m, 15.VII.2007; 1♂, id., Wadi Razat, 770m, 21.IX.2006; 2♀, Dhofar, Khubrart, 900m, 8.-24.VII.2007; 1♀, Dhofar, Wadi Darbat, base cascata, 11.IX.2002, leg. L. Dapporto.

Description: Wingspan 18-19 mm. Palpi white with some black brown scales laterally. Frons black brown. Vertex brown. Collar light brown. Proboscis well developed. Length of palpi equal to diameter of eye. Antennae of ♂ ciliate-fasciculate, flagellum sub-dentate, with deep intersegmental incisions; length of cilia 1.2 times width of flagellum, the latter measured at greatest width. Hindtibia of ♂ with large white pencil covering half tarsus, the latter 0.6 times length of tibia. Ground colour white, transverse lines fine, light brown. Forewing with antemedial line convex; medial line curved towards base at costa, surrounding the fine cell spot; postmedial line not dentate, slightly undulate; terminal area with dark shadows, interrupted by veins. Terminal line light brown, with small punctiform black terminal dots. On hindwing medial line proximally of and close to cell dot.

Male genitalia: Socii very long, strongly sclerotised, dilated and setose at tip. Valva long and narrow, membranous, curved at tip. Valvula (fibula) strongly sclerotised over the whole length, right fibula at tip dilated sub-triangular, left fibula tapering to a long hook. Large setose coremata at base of valvula. Basal half of aedeagus dilated, with elongate sclerite; aedeagus tapering and sclerotised distally, vesica distally with sigmoid cornutus. Sternum A8 with three projections at basis, mappa large and rounded, left ceras stout and straight, right ceras weakly developed, very thin and curved.

Female genitalia: Lamella ante- and postvaginalis strongly sclerotised. Margin of ostium bursae with asymmetrical, nose-shaped projection. Ductus bursae membranous, short, Corpus bursae oval, with lateroposterior sclerotisation at the left side. Signum patch large, with large spinules.

Differential diagnosis: In habitus slightly reminiscent of small *Scopula dhofarata* Wiltshire, 1986, but postmedial line not dentate, medial line curved around cell spot of forewing, terminal area with conspicuous dark shadows. In genitalia the long, sclerotised and terminally dilated socii are unique, similar to the asymetically sclerotised fibulae (valvula), the right being dilated, and the weakly developed narrow right ceras at sternum A8. These unique characters suggesting an isolated position within the genus *Scopula*. Basis of sternum A8 reminiscent of *Problepsis*.

Molecular diagnosis: Apparently without close ally on the Arabian peninsula. Nearest neighbor in the COI analysis of genus *Scopula* worldwide (170+ species examined) is *Scopula rhodinaria* (Rebel, 1907) from Sokotra islands at a genetic distance of 6.5%.

Etymology: Dedicated to Carlo Morandini (Director of Museo Friulano di Storia Naturale, Udine, Italy), for his merits in entomology.

Scopula caesaria walkeros Wiltshire, 1980
Populations from SO showed no genetic difference from examined populations of Yemen.

Scopula nepheloperas aidasi ssp.n.
(Fig. 3)

Holotype: ♂, S. Oman, Dhofar, Al Mughsayl env. (s. valley), 215m, 15.VII.2007, leg. A. Saldaitis & J. Krueger, coll. ZSM, DNA barcode BC ZSM Lep 14803; gen.prp. ZSM G 14070.
Paratypes: 3♀, id.; 1♀, id., 70m, 8-24.VII.2007.

Description: Wingspan ♂ 16-17, ♀ 19-20 mm. Palpi sand coloured with brown scales dorsally. Frons dark brown, sand coloured towards proboscis. Vertex sand coloured. Collar grey brown. Proboscis well developed. Palpi of medium length, equal to diameter of eye. Antennae of ♂ densely ciliate-fasciculate, length of cilia 1.6-2.0 times width of flagellum. ♂ hindtibia long and slender, with two long spurs, tarsus not shortened. Forewing sand coloured. Terminal area darker, grey, with wavy line concolorous to ground colour, usually uninterrupted. Antemedial, medial and postmedial lines slightly undulate, brown, curved and stronger marked at costa. Forewing apex with conspicuous black terminal dot, as in the nominate subspecies. Coloration and pattern of hindwing similar to that of forewing, but wavy line dissolved into spots. Cell spots small, on forewing usually better developed than on hindwing. Underside of wings unicolorously glossy pale brown.

Male genitalia: Socii short, fibulae asymmetric, the right sclerotised to a short hook, the left digitiform, less sclerotised. Aedeagus long and slender, bent at the outlet of ductus ejaculatorius, tapering distally. Sternum A8 with shallowly concave basis, left ceras vestigial, truncate, right ceras long and narrower, curved; mappa with deep notch posteriorly, projections of lobes slightly asymmetrical.

Female genitalia: Lamella antevaginalis strongly sclerotised, cup-shaped. Antrum with small semi-circular lobe. Ductus bursae long, length approx. 1.5 mm, strongly sclerotised, with longitudinal wrinkles. Corpus bursae large, oval. Signum patch elongate drop-shaped, with small spinules.

Differential diagnosis: Differing from nominate subspecies *S. n. nepheloperas* (Prout, 1916) in less contrasted coloration, terminal area paler grey with forewing wavy line not completely dissolved to spots. Medial line of hindwing not darkened at inner termen. Cell spot inconspicuous on hindwing. Male genitalia of the new subspecies reminiscent of those of the nominate subspecies examined from Ethiopia and Kenya, however, left ceras vestigial, with a very small truncate sclerite only (in nominate subspecies developed as short tapering ceras), mappa with posterior notch, and right ceras longer, narrower and less strongly curved. See also diagnosis of following species.

Molecular diagnosis: Populations from SO with variable genetic difference from several examined specimens from Yemen, due to large genetic variation of the latter. Specimens from Yemen at distances of 0.9%, 2.3% and 5.1% from southern Omani populations. So far, no correlating trait in genitalia could be found for that genetic variation within Yemenite populations. Genetic difference between subsp. *aidasi* and nominate subspecies examined from Ethiopia 3.2%.

Etymology: Dedicated to Aidas Saldaitis (Vilnius, Lithuania), for competent scientific collecting of the material, and for kind cooperation in the study of Middle East geometrids.

Remarks: Yemenite populations are characterised in male genitalia by deeply concave basis of Sternum A8 and double sigmoid shape of the long and narrow right ceras. Considering the quantity of differential features in ♂ genitalia, *aidasi* may also reveal to be a 'good' sister species of *S. nepheloperas*, after careful and comprehensive investigation of the populations from Yemen.

Scopula alhamrensis **sp.n.**
(Fig. 4)

Scopula nepheloperas: Hausmann (1998) nec Prout, 1916, misidentification.

Holotype: ♂, Oman, Northern Region, Jabal Shams, 19km NW Al Hamra, 1100m, 7.I.1993, leg. B. Skule, coll. ZSM, DNA barcode ID BC ZSM Lep 21901; gen.prp. ZSM G 8574.

Paratypes: 2♂2♀, id.; 5♂1♀, Northern Oman, Umg. Nizwa, Wadi Al Muaydin, ca. 700m, E. XII. 2003, leg. et coll. H. Fischer; 6♂, id., Jabal Akhdar, ca. 1000m, E. XII. 2003; 1♂, id., M. X. 2004; 1♂1♀, id., ca. 1800m, E. XII. 2003; 1♂1♀, id., Nizwa, Vorstadt, Majan Guest House, E. XII. 2003; 4♂1♀, 70 km südwestlich Sur, 600m-800m, M. X. 2004; 3♂, id., E. XII. 2003

Description: Wingspan ♂♀ 22-25 mm. Palpi brown with some sand coloured scales ventrally. Frons dark brown, lower half sand coloured. Vertex sand coloured. Collar grey brown. Proboscis well developed. Palpi of medium length, equal to diameter of eye. Antennae of ♂ densely ciliate-fasciculate, length of cilia 2.4-2.8 times width of flagellum. ♂ hindtibia long and slender, with two long spurs, tarsus not shortened. Wings sand coloured. Terminal area darker, grey, with wavy line concolorous to ground colour, usually dissolved into spots. Antemedial, medial and postmedial lines slightly undulate, brown, bent and stronger marked at costa. Forewing apex with conspicuous black terminal dot, as in *S. nepheloperas*. Cell spots small. Underside of wings glossy sand coloured, with terminal area grey.

Male genitalia: Socii short, fibulae asymmetric, the right sclerotised to a short hook, the left broad digitiform, less sclerotised. Aedeagus straight, long and slender, tapering distally. Sternum A8 with concave basis, left ceras well developed and almost reaching length of mappa, right ceras stout and strongly bent over the posterior margin of mappa. Mappa posteriorly rounded.

Female genitalia: Lamella antevaginalis strongly sclerotised, cylindric. Ductus bursae strongly sclerotised, with longitudinal wrinkles, length approx. 1.1 mm. Corpus bursae large, oval. Signum patch elongate drop-shaped, with small spinules.

Differential diagnosis: Larger than *S. nepheloperas aidasi* (see preceding species). Forewing with wavy line completely dissolved into spots. Costal forewing spots usually better marked. Underside of wings paler with terminal area darker. In male genitalia differing from both *S. n. nepheloperas* and *S. n. aidasi* in having both cerata well developed, the right being stouter and more strongly curved. In female genitalia shape of lamella antevaginalis cylindric, ductus bursae shorter and slightly broader than in *S. nepheloperas*.

Etymology: The name refers to the type locality.

Scopula nubifera Hausmann, 1998

New material from 20km W Al Mughsayl, Al Mughsayl, Khubrart, leg. A. Saldaitis; Ain Jarziz, Jabal Samhan, leg. L. Dapporto; type series from Ain Hamran, leg. B. Skule. Genetic distance between *Scopula nubifera* from SO and *Scopula luridata* (Zeller, 1847) from Yemen 0.9%. Length of ♂ antennal cilia 1.7-2.2 times width of flagellum, thus longer than mentioned in Hausmann (1998). Original measurements in type series were hampered by ciliation appressed to flagellum. Ground colour of wings grey, without the warm sand coloured tinge which is typical for most populations of *Scopula luridata*. Males often with reduced pattern and strongly marked costal spots of forewing, thus reminiscent of *Scopula nigrinotata nachtigali* Herbulot, 1965. ♂ genitalia with left ceras short, apparently without polymorphism (n=5). In *S. luridata* the left ceras is always long (n=21). Further study is required to investigate whether downgrading to subspecies rank of *luridata* is necessary or not.

***Scopula colymbas pasii* ssp.n.**

(Fig. 5)

Holotype: ♂, S. Oman, Dhofar, 20km SW. from Al Mughsayl, 640m, 8-24.VII.2007, leg. A. Saldaitis & J. Krueger, coll. ZSM, DNA barcode BC ZSM Lep 14810; gen.prp. ZSM G 14130.
Paratypes: 1♂9♀, id.; 3♂1♀, id., Al Mughsayl, 70m; 1♀, id., 19.-22.IX.2006; 3♀, id., Al Mughsayl env. (s. valley), 215m, 15.VII.2007; 1♂, Dhofar, Road 47 near Arift, 1000m, 16.8104°N, 53.5268°E, 12.IX.2002, leg. L. Dapporto.

Description: Wingspan ♂ 17-18, ♀ 18-20 mm. Palpi brown, frons black brown, vertex sand coloured, collar light brown with grey tinge. Proboscis well developed. Palpi slender, length about equal to diameter of eye. Antennae of ♂ ciliate-fasciculate, flagellum sub-dentate, with deep intersegmental incisions, length of cilia 2.5-2.7 times width of flagellum, the latter measured at greatest width. Hindtibia of ♂ long and slender, with pale sand coloured pencil, the latter not exceeding tibia. ♂ hindtarsus 0.6-0.8 times length of tibia. Wings of male sand coloured. Transverse lines grey, weakly marked. Cell spots black, small, very fine. Terminal area darkened grey.

Forewing apex towards costa with a small black subapical spot in triangular area of ground colour. Postmedial line of forewing broadened to blackish spots centrally and in the forewing tornus. Female similar but ground colour with dark suffusion and transverse lines better marked.

Differential diagnosis: Nominate subspecies *S. c. colymbas* Herbulot, 1994 well matching in external structure, but in habitus differing in a fused dark fascia in the terminal area distad of postmedial line. Transverse lines darker, medial line of hindwing surrounding cell spot at both sides. Populations from Yemen variable in habitus, on average larger. Male genitalia: *S. c. pasii* without differences from populations from Yemen (cf Hausmann 1999). Nominate subspecies from Sokotra well matching too, but socii narrower, fibulae stronger sclerotised and sternum A8 narrower, in female lamella antevaginalis smaller. Female genitalia: *S. c. pasii* without differences from populations from Yemen. Nominate subspecies from Sokotra well matching too (cf Herbulot 1994), but lamella antevaginalis smaller.

Molecular diagnosis: Genetic distance between populations from SO and Yemen 0.9%, between SO and Sokotra 2.2%. Infraspecific sequence variation is low for SO (0.5%; n=2) and Sokotra (0.4%; n=2), large for Yemen (1.3%; n=3).

Distribution: The species is new for the fauna of the Oman. Yemenite *S. colymbas* usually occurring in habitats above 1,000 m (Hausmann 1999).

Etymology: Dedicated to Pasi Sihvonen (Helsinki, Finland), in acknowledgement of his great revision of the Scopulini (Sihvonen 2005), a bench-mark for geometridology.

Remarks: Males of *S. c. pasii* particularly similar to *Scopula addictaria rufinubes* (differential features see next species).

Scopula addictaria rufinubes (Warren, 1900)
Records from SO in Wiltshire (1990) confirmed by dissected vouchers in the recent collectings of both B. Skule and A. Saldaitis (20km W Al Mughsayl; Wadi Razat; Ain Hamran; 20km N Salalah). In habitus very similar to the preceding species, with esp. males being almost undistinguishable based on wing coloration and pattern. However, male hindtarsus shortened, 0.3-0.5 times length of tibia in *Scopula addictaria rufinubes*. Male and female genitalia showing striking differences between both species. The long socii of *S. c. pasii* can easily be seen after brushing the tip of the ♂ abdomen.

Scopula proverai **sp.n.**
(Fig. 6)

Scopula sarfaitensis: Wiltshire (1982: ♀ paratype; 1990) nec Wiltshire, 1982 (♀ holotype), misidentification.
Holotype: ♂, S. Oman, Dhofar, Al Mughsayl env. (s. valley), 215m, 15.VII.2007, leg. A. Saldaitis & J. Krueger, coll. ZSM, DNA barcode BC ZSM Lep 14813; gen.prp. ZSM G 14138.
Paratypes: 1♀, id., 70m, 8.-24.VII.2007; 3♂♀, id., 19.-22.IX.2006; 4♀, 20km SW Al Mughsayl, 640m, 20.-23.IX.2006; 1♂2♀, id., Al Mughsayl env. (s. valley), 215m, 15.VII.2007.

Description: Wingspan ♂ 19, ♀ 20-22 mm. Palpi brown, mixed with some paler scales. Frons dark brown. Vertex sand coloured. Collar grey brown. Proboscis well developed. Palpi slender, of medium length, equal to diameter of eye. Antennae of ♂ long ciliate-fasciculate, flagellum dentate, with deep intersegmental incisions; length of cilia 2.2-2.6 times width of flagellum, the latter measured at greatest width. ♂ hindtibia long and slender, with two long spurs, tarsus not shortened. Wings sand coloured, with slight orange tinge. Transverse lines vague, almost invisible, at forewing costa marked by small spots. Terminal area slightly darker and with grey suffusion. On the forewing that grey terminal suffusion is condensed centrally and at tornus. Cell spots very small, on forewing often missing.

Male genitalia: Socii very shortly projecting from the extended posterior sclerite. Fibulae asymmetric, the right not sclerotised, short, digitiform, the left sclerotised to a short hook. Aedeagus curved, long and slender, tapering distally. Sternum A8 with strongly concave basis. Left ceras straight, long and stout, spinulose at tip, twice length of mappa. Right ceras short, strongly curved outside at posterior margin of mappa, spinulose at tip. Mappa posteriorly rounded. Length of sternum A8 from basis to mappa 1.0, including left ceras 1.4 mm.

Female genitalia: Lamella antevaginalis strongly sclerotised, sub-oval, close to ostium burse with additional sub-triangular sclerite. Ductus bursae long and slender, membranous, length approx. 1.7 mm. Corpus bursae elongate. Signum patch almost absent, replaced by a few very small spinules.

Differential diagnosis: *S. sarfaitensis* Wiltshire, 1982 from Yemen and south-western Saudi Arabia often with strong dark suffusion over the wing colour, transverse lines better marked, terminal area darker with wavy line better contrasting. Male sternum A8 of *S. sarfaitensis* larger (from basis to mappa 1.4, including left ceras 1.9 mm), basis much deeper concave basis, left ceras longer, right ceras larger, curved outside at basis of mappa. In female genitalia of *S. sarfaitensis* ductus bursae shorter and broader, lamella antevaginalis larger.

Molecular diagnosis: Large genetic distance between *Scopula proverai* from SO and *S. sarfaitensis* from Yemen (4.3%).

Etymology: Dedicated to Pietro Provera (Ruvigliana, Ticino, Switzerland), for his great merits in entomology.

Scopula dhofarata Wiltshire, 1986
New material from Wadi Razat (leg. A. Saldaitis) and from Road 47 near Arift (leg. L. Dapporto). Identification verified by dissection and DNA barcoding.

Scopula adelpharia (Püngeler, 1894)
Populations from SO showed no genetic difference from examined populations of United Arabian Emirates.

Scopula chalcographata (Brandt, 1938) (= *Glossotrophia adenensis* Wiltshire, 1986, **syn. n.**)
Populations from SO showed no genetic difference from examined populations of Sinai (Egypt). In male genitalia no significant and constant differences between male holotype of *Glossotrophia adenensis* (examined), male syntypes of *G. chalcographata* (examined) and examined populations from Oman, Sinai (Egypt), Jordan, Israel and Iran. Therefore *adenensis* downgraded to synonymy of *chalcographata*.

Scopula buraimana (Wiltshire, 1949)
Wrong identification ('*Glossotrophia buraimana*') in Wiltshire (1977), Wiltshire (1985) and Wiltshire (1986), corrected in Wiltshire to (1990) to *G. chalcographata*, but again listed under *G. buraimana* in Hacker & Hausmann (1999). To be cancelled from the list of Omani geometrids! According to new molecular analyses, including topotypic material from Saudi Arabia, '*Glossotrophia buraimana*' (**syn.n.**) is just a synonym of *Scopula (Glossotrophia) alfierii* (Wiltshire, 1949).

Scopula alfierii (Wiltshire, 1949)
Populations from SO showed no genetic difference from examined populations of Yemen.

Scopula uvarovi (Wiltshire, 1952)
New for the fauna of the Oman (Al Mughsayl, leg. A. Saldaitis). Populations from SO showed no genetic difference from examined populations of Yemen.

Scopula larseni (Wiltshire, 1982)
Populations from SO showed no genetic difference from examined populations of Yemen.

Scopula ochrea (Hausmann, 2006)
New for the fauna of the Oman (Al Mughsayl, leg. A. Saldaitis). Described from Yemen under the combina-

tion *Zygophyxia ochrea*, transferred to *Scopula* according to the generic concepts of Sihvonen & Kaila (2005). Genetic distance low (0.35%) between populations from SO and Yemen.

Problepsis erythra Wiltshire, 1982
New material from Jabal Samhan (1♀, leg. L. Dapporto) after the SO female mentioned in Hausmann (1998). Examination of female genitalia of specimens from SO and *P. asira* Wiltshire, 1982 from Yemen did not reveal any significant differential feature despite the differences in habitus, the Yemenite populations being paler and smaller, lacking an additional small eye spot at the inner margin of the forewing (main differential feature in Wiltshire's descriptions of both taxa), spots in the terminal area inconspicuous rather than large and black. Considering the lack of differences in female genitalia, synonymy of both taxa is not excluded, but requires the study of more material including males.

***Somatina pythiaria nigrimacula* ssp.n.**
(Fig. 7)

Holotype: ♀, S. Oman, Dhofar, Madinat al Hagg (Jungle) N.E. from Salalah, 560m, 8.-24.VII.2007, leg. A. Saldaitis & J. Krueger, coll. ZSM, gen.prp. ZSM G 14207.
Paratypes: 1♂3♀, id.; 4♀, Khubrart, 900m, 8.-24.VII.2007; 1♂, id., Wadi Razat, 770m, 21.IX.2006; 4♀, id., 20km N.E. from Jihjat, 550m, 25.09.2006.

Description: Wingspan ♂ 23, ♀ 25-27 mm. Palpi dark brown, ventrally white. Frons dark brown, towards proboscis white. Vertex and collar white. Proboscis well developed. Length of ♂♀ palpi 0.8-0.9 times diameter of eye. Antennae of ♂ deeply dentate, width of flagellum 0.4 mm at intersegmental incisions, legth of dents 0.25 mm; long ciliate-fasciculate, length of cilia 3.0-3.3 times width of flagellum, measured at greatest width. Antennae of ♀ filiform, shortly and scarcely ciliate. Hindleg missing in the single male of the recent collectings. Female hindtibia with two pairs of spurs of strongly unequal length. Ground colour white. Transverse lines pale grey, medial and postmedial line strongly curved towards forewing costa. Terminal area darker, proximally with a strongly confluent row of grey spots. Wavy line conspicuous, of ground colour. Cell spots of all wings T-shaped, consisting of three fused spots, usually blackish, sometimes filled with ochreous scales. Underside whitish, almost without pattern.

Male genitalia: Uncus elongate, narrow. Valva and fibula long narrow, sclerotised. Aedeagus curved, tapering distally, length 1.6 mm. Sternum A8 almost completely sclerotised, basis trilobous, mappa small and membranous, lateroposteriorly strongly sclerotised with three pointed spines, length of that sclerotisation from mappa to lateral spine 0.6-0.7 mm.

Female genitalia: Antrum tubular. Length of ductus bursae 2.0 mm. Lamella antevaginalis with narrow posterior notch.

Differential diagnosis: Nominate subspecies *S. p. pythiaria* (Guenée, 1858) without black cell spots on hindwing, but with iridescent silver scales. Male genitalia of nominate subspecies with broader uncus, length of trifid lateral spine of sternum A8 0.8 mm, length of aedeagus 2.0-2.1 mm. Female genitalia of nominate subspecies with antrum constricted, ductus bursae shorter (1.5 mm), lamella antevaginalis posteriorly with wide excavation. *Somatina wiltshirei* Prout, 1938 from Iran with dark suffusion over the wing pattern, cell spots more diffuse, in male genitalia with completely different structure of sternum A8, e.g. lateroposterior projections missing.

Molecular diagnosis: Genetic distance between populations from Oman and Yemen 0.5%, between Ethiopia (locus typicus of nominate subspecies) and Oman 0.6%. *Somatina wiltshirei* at a distance of 9.4% from *S. p. nigrimacula*.

Etymology: The name refers to the conspicuous dark hindwing cell spots.

Remarks: In habitus, the populations from Yemen better match the nominate subspecies, in male genitalia they are closer to ssp. *nigrimacula*. Two additional congeners occurring in Yemen are described separately.

Cosymbiini

Pseudosterrha rufistrigata (Hampson, 1896)
Populations from SO showed no genetic difference from two examined specimens from Yemen, but large genetic distances from *P. rufistrigata* examined from UAE, Yemen, Jordan and Egypt (3.6%). Infraspecific sequence variation low in the last mentioned 'north-eastern clade' (1.0%, n=8). In Yemen both clades occurring sympatrically. In male genitalia apparently without corresponding, significant and constant differences.

Pseudosterrha colettae Hausmann, 2006
New for the fauna of the Oman (20km W Al Mughsayl; Al Mughsayl, Road47 near Arift: leg. A. Saldaitis, L. Dapporto). Identification verified by both dissection and DNA barcoding. Large genetic distance between *P. colettae* and *P. rufistrigata* (8.4%). Infraspecific sequence variation low in *P. colettae* from SO (max. divergence 0.0%, n=3).

Pseudosterrha paulula (Swinhoe, 1886)
New for the fauna of the Oman: Recorded from Ibra, northern Oman, by B. Skule.

Palaeaspilates reducta (Wiltshire, 1980)
New material from Salalah, Al Mughsayl, Madinat al Hagg, Ain Hamran, Ain Jarziz (leg. B. Skule, A. Saldaitis, L. Dapporto).

Larentiinae
Eupitheciini

Eupithecia maerkerata Schütze, 1961
New for the fauna of the Oman: Recorded from northern Oman (Al Hamra, Ibra, Wadi Al Khawd, Wadi Tanuf) by B. Skule.

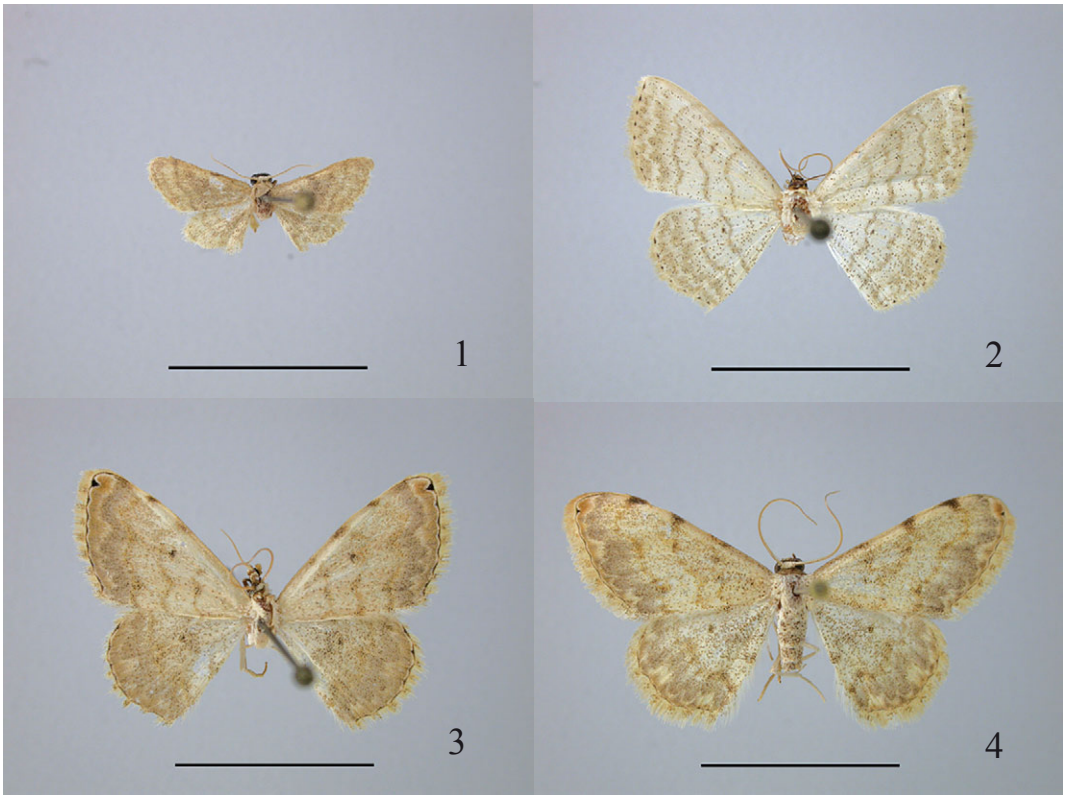
Eupithecia ultimaria (Boisduval, 1840)
New for the fauna of the Oman: Recorded from Wadi Al Khawd, northern Oman by B. Skule.

Pasiphila derasata (Bastelberger, 1905)
Populations from SO showed no genetic difference from examined populations of Ethiopia and Cape Verde islands. Identification verified by dissection. Erroneously identified in Wiltshire (1980: *Chloroclystis nanula*), and Wiltshire (1980: *Calliclystis nanula*). Large and constant genetic distances between *P. derasata* and *P. lita* from Yemen (2.9%), and between *P. derasata* and *P. socotrensis* from Socotra island (2.2%). Genetic distances and considerable differences in genitalia clearly confirming species rights for all three taxa.

Ennominae
Cassymini

Zamarada latilimbata Rebel, 1948
New for the fauna of the Oman (Al Mughsayl, leg. A. Saldaitis; Jabal Samhan, leg. L. Dapporto). Populations from SO showed no genetic difference from examined populations of Yemen.

Heterostegane serrata (Fletcher, 1958)
New for the fauna of the Oman (Madinat al Hagg, leg. A. Saldaitis). Identification verified by dissection and DNA barcoding.



Figs 1-4: Adult habitus of newly described taxa, scale bar = 1 cm. **Fig. 1** *Idaea mimetes kruegeri* **sp.n.**, holotype. **Fig. 2** *Scopula morandinii* **sp.n**., ♀ paratype. **Fig. 3** *Scopula nepheloperas aidasi* **ssp.n.**, ♀ paratype. **Fig. 4** *Scopula alhamrensis* **sp.n.**, holotype.

Macariini

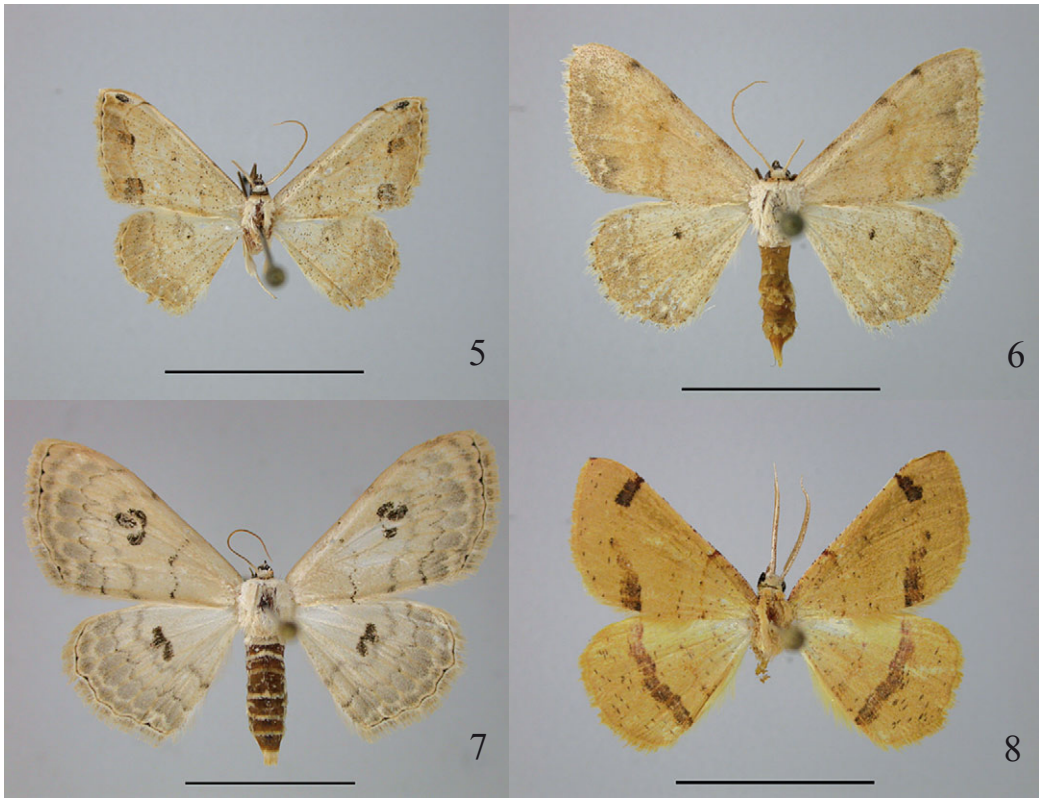
Platypepla arabella Wiltshire, 1983
New for the fauna of the Oman (20km W Al Mughsayl; Al Mughsayl, leg. A. Saldaitis). Populations from SO showed no genetic difference from examined populations of Yemen.

Chiasmia assimilis (Warren, 1899)
New for the fauna of the Oman (20km W Al Mughsayl, leg. A. Saldaitis). Populations from SO showed no genetic difference from examined populations of Yemen.

Chiasmia latimarginaria (Rebel, 1907)
New material from Jabal Samhan, 1300m (leg. L. Dapporto).

Isturgia sublimbata (Butler, 1884)
Genetic distance between populations from SO and Egypt 0.5%, due to geographical distance. One specimen examined from southern Jordan at a genetic distance of 1.8%.

Isturgia philbyi (Wiltshire, 1980)
Genetic distance between populations from SO and Yemen 1.4%, possibly due to beginning geographical isolation.



Figs 5-8: Adult habitus of newly described taxa, scale bar = 1 cm. **Fig. 5** *Scopula colymbas pasii* **ssp.n.**, holotype. **Fig. 6** *Scopula proverai* **sp.n.**, ♀ paratype. **Fig. 7** *Somatina pythiaria nigrimacula* **ssp.n.**, holotype. **Fig. 8** *Lhommeia subapicata omanirufa* **ssp.n.**, holotype.

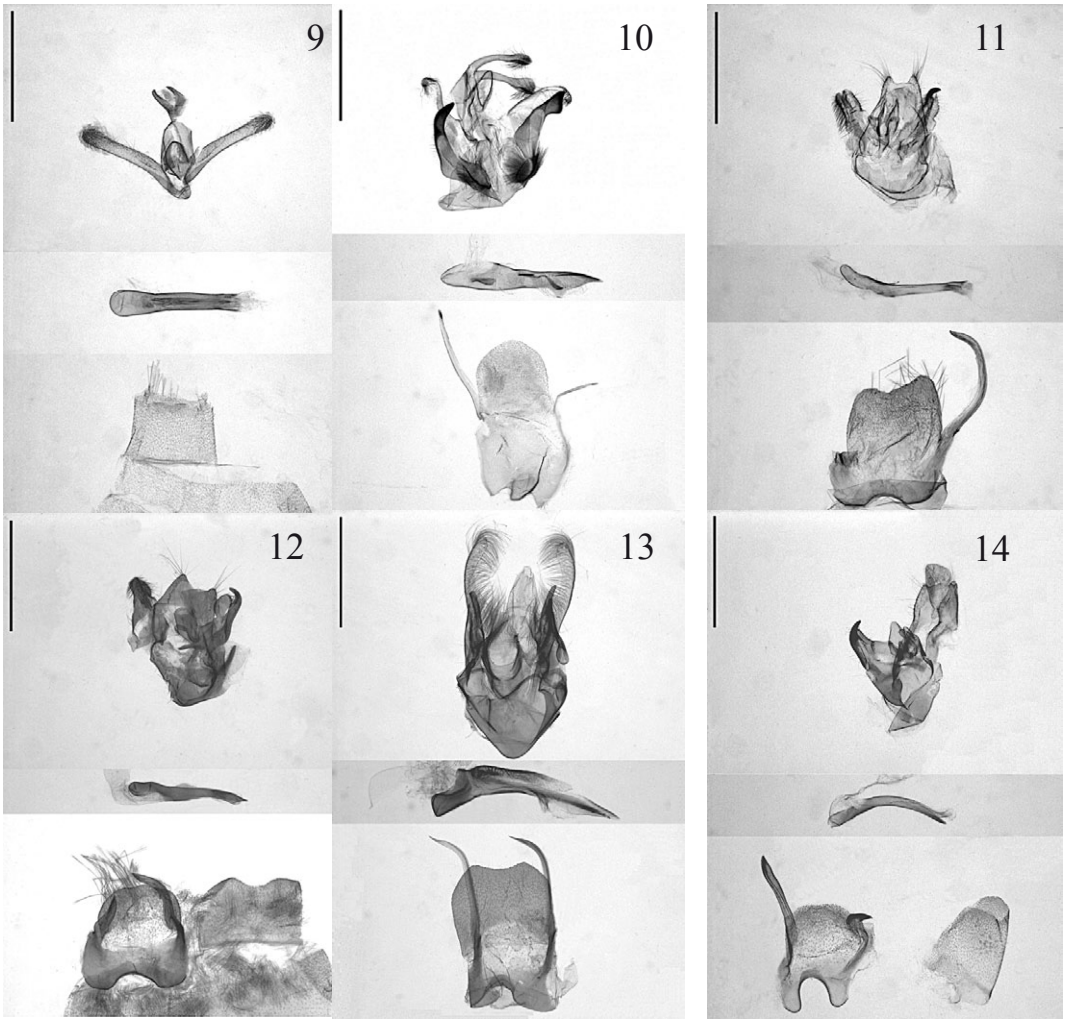
Isturgia pulinda deerraria (Walker, 1861)
Populations from SO showed no genetic difference from examined populations of Yemen.

Caberini

***Lhommeia subapicata omanirufa* ssp.n.**
(Fig. 8)

Holotype: ♂, S. Oman, Dhofar, Al Mughsayl env. (s. valley), 215m, 15.VII.2007, leg. A. Saldaitis & J. Krueger, coll. ZSM, DNA barcode BC ZSM Lep 14747; gen.prp. ZSM G 14044.
Paratypes: 2♂2♀, id., 70m, 19.-22.IX.2006; 9♀, id., 8.-24.VII.2007; 2♀, Madinat al Hagg (Jungle) N.E. from Salalah, 560m, 8.-24.VII.2007; 2♂, id., Al Mughsayl env. (s. valley), 215m, 15.VII.2007; 1♀, 20km SW from Al Mughsayl, 640m, 8-24.VII.2007; 1♂, Darbat Pool, 17°05' N, 54°26' E, 250m, 17.III.2006, leg. L. Dapporto; 1♂, Jabal Samhan, 17.0993°N 45.6989°E, 1350m, 1.-17.III.2004, leg. L. Dapporto.

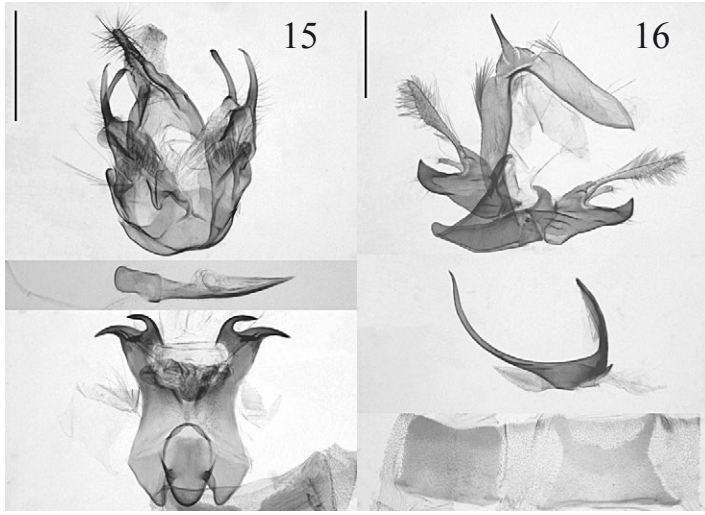
Description: Wingspan ♂ 20-26, ♀ 23-27 mm. Palpi, and frons ochre. Frons flat but with strongly projecting tuft of hair-like scales. Length of palpi 1.7-2.0 times diameter of eye, last segment narrower. Proboscis developed. Antennae of ♂ bipectinate length of branches 10 times width of flagellum. Female antennae filiform. Ground colour yellow or ochre, often with orange or red brown tinge. Postmedial fascia well developed on all wings, sometimes reduced to a costal spot of the forewing. Medial and antemedial lines vague. Underside similar with pattern more diffuse, usually.



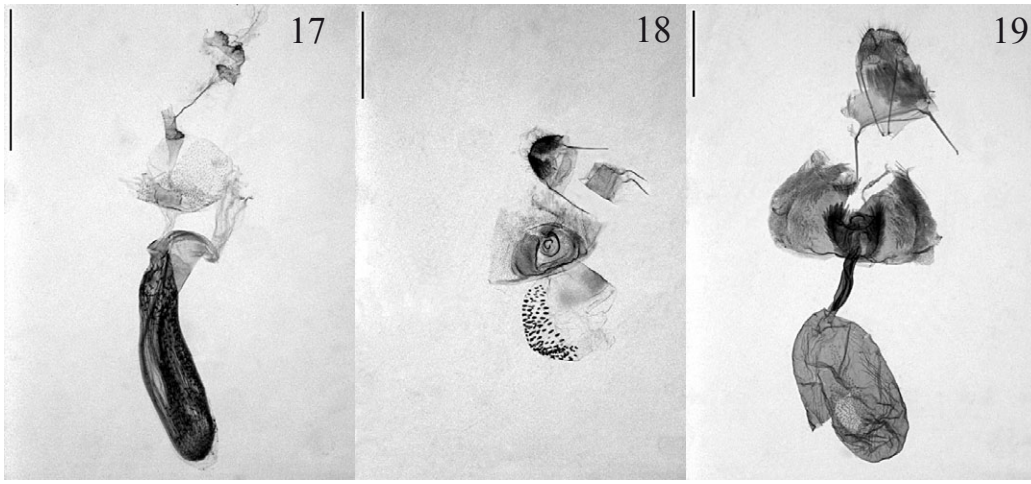
Figs 9-14: ♂ genitalia of newly described taxa, scale bar = 1 mm. **Fig. 9** *Idaea mimetes kruegeri* **sp.n.**, prp. ZSM G 14143, holotype. **Fig. 10** *Scopula morandinii* **sp.n.**, prp. ZSM G 14132, holotype. **Fig. 11** *Scopula nepheloperas aidasi* **ssp.n.**, prp. ZSM G 14169, paratype. **Fig. 12** *Scopula alhamrensis* **sp.n.**, prp. ZSM G 8731, paratype. **Fig. 13** *Scopula colymbas pasii* **ssp.n.**, prp. ZSM G 14130, holotype. **Fig. 14** *Scopula proverai* **sp.n.**, prp. ZSM G 14138, holotype.

Male genitalia: Valva with sclerotised sacculus short, broad and truncate (laterally tapered); tip of valva membranous, long and slender, straightly flag-shaped, length of membranous tip 1.5 mm. Valva strongly curved, total length approx. 3.5 mm.
Female genitalia: With sterigma sclerotised, sub-rectangular. Lamella antevaginalis with sclerotised 'pocket' with blind ending into the sternite. Corpus bursae membranous, broad, elongate, with longitudinal wrinkles poster

Differential diagnosis: Nominate subspecies *Lhommeia s. subapicata* (Warren, 1899) (loc.typ. South Africa, Natal) larger, wingspan of ♂ 26-32, ♀ 30-38 mm, ground colour usually with green tinge, being stronger on forewing. Male genitalia of nominate subspecies examined from Ruanda with sclerotised sacculus longer, slightly curved and tapering; membranous tip of valva, bent twice, longer (1.8-2.0 mm). Valva with total length



Figs 15-16: ♂ genitalia of newly described taxa, scale bar = 1 mm. **Fig. 15** *Somatina pythiaria nigrimacula* **ssp.n.**, prp. ZSM G 14109, paratype. **Fig. 16** *Lhommeia subapicata omanirufa* **ssp.n.**, prp. ZSM G 14044, holotype.

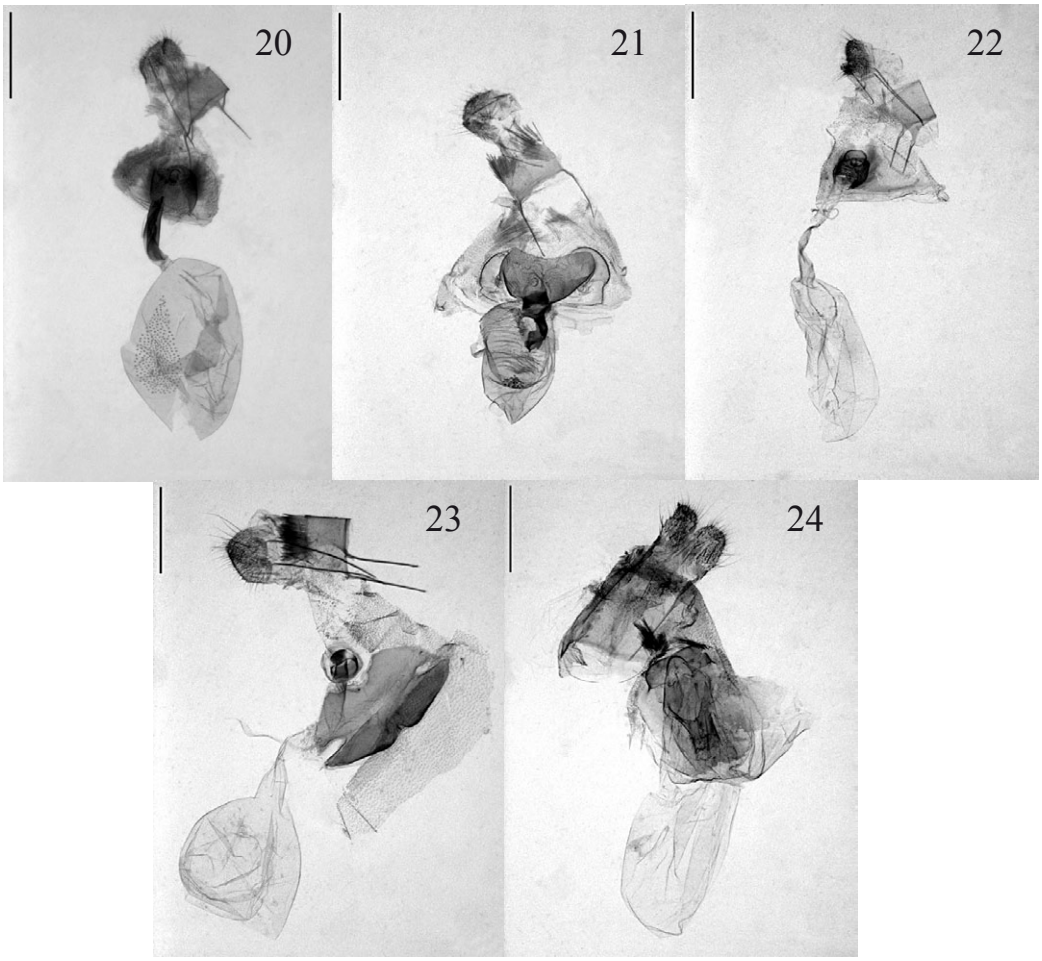


Figs 17-19: ♀ genitalia of newly described taxa, scale bar = 1 mm. **Fig. 17** *Idaea mimetes kruegeri* **sp.n.**, prp. ZSM G 12304, paratype. **Fig. 18** *Scopula morandinii* **sp.n.**, prp. ZSM G 14133, paratype. **Fig. 19** *Scopula nepheloperas aidasi* **ssp.n**., prp. ZSM G 14129, paratype.

4.5 - 5 mm. Populations from Yemen in habitus reminiscent of nominate subspecies, male genitalia with shape of sacculus intermediate, strongly curved, shape of membranous tip of valva as in subsp. *omanirufa*, length of valva intermediate. Female genitalia of Yemenite populations with stronger sclerotised and deeper 'pocket' of lamella antevaginalis than in subsp. *omanirufa*. When considering only the most distant populations from Oman and south-eastern Africa, the differences in habitus and genitalia suggest species rank of both. With respect to some mentioned intermediate features of the Yemenite populations, however, the Omani taxon is given subspecies rank here.

Molecular diagnosis: Genetic distance of 2.2% between populations from SO and Yemen, 3.7% between populations from SO and Ethiopia and 2.0% between populations from Ethiopia and Yemen.

Etymology: The name refers to the type locality and to the more reddish coloration.



Figs 20-24: ♀ genitalia of newly described taxa, scale bar = 1 mm. **Fig. 20** *Scopula alhamrensis* **sp.n.**, prp. ZSM G 8732, paratype. **Fig. 21** *Scopula colymbas pasii* **ssp.n.**, prp. ZSM G 14209, paratype. **Fig. 22** *Scopula proverai* **sp.n.**, prp. ZSM G 14213, paratype. **Fig. 23** *Somatina pythiaria nigrimacula* **ssp.n.**, prp. ZSM G 14207, holotype. **Fig. 24** *Lhommeia subapicata omanirufa* **ssp.n.**, prp. ZSM G 14108, paratype.

Boarmiini

Zeuctoboarmia syntropha (Prout, 1931)
New material from Salalah, Ain Hamran, Ain Jarziz, Rd Hajaif-Uyun, Madinat al Hagg (leg. B. Skule, A. Saldaitis, L. Dapporto).

Oreometra fifae Wiltshire, 1986
New for the fauna of the Oman (Khubrart, Madinat al Hagg, leg. A. Saldaitis; Ain Jarziz, leg. L. Dapporto). Populations from SO showed no genetic difference from examined populations of Yemen.

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Zusammenfassung

Neue und interessante Nachweise von 50 Geometridenarten aus dem Dhofar-Gebirge (Süd-Oman) werden vorgestellt. Die taxonomische Analyse erfolgt unter Berücksichtigung sowohl morphologischer als auch molekularer Daten. Drei Arten und fünf Unterarten werden als neu für die Wissenschaft beschrieben: *Idaea mimetes kruegeri* **ssp.n.**, *Scopula morandinii* **sp.n.**, *Scopula nepheloperas aidasi* **ssp.n.**, *Scopula alhamrensis* **sp.n.**, *Scopula colymbas pasii* **ssp.n.**, *Scopula proverai* **sp.n.**, *Somatina pythiaria nigrimacula* **ssp.n.**, und *Lhommeia subapicata omanirufa* **ssp.n.**. *Gnophosema leucites* Wiltshire, 1980, **stat. n.** wird vom Rang einer Unterart von *G. isometra* (Warren, 1888) auf Artrang heraufgestuft. *Glossotrophia adenensis* Wiltshire, 1986 wird vom Artrang zu einem Synonym von *Scopula chalcographata* (Brandt, 1938) herabgestuft. *Glossotrophia buraimana* Wiltshire, 1949 ist ein Synonym von *Scopula alfierii* (Wiltshire, 1949). Die folgenden 20 Arten sind neu für die Fauna des Oman: *Microloxia ruficornis* Warren, 1897, *Idaea tahamae* Wiltshire, 1983, *Idaea damadensis* Wiltshire, 1986, *Idaea eremica* (Brandt, 1941) (neben der Schwesterart *Idaea hathor* (Wiltshire, 1949), *Brachyglossina tibbuana erythra* Wiltshire, 1990, *Scopula subgastonaria* Wiltshire, 1982, *Scopula morandinii* **sp.n.**, *Scopula colymbas pasii* **ssp.n.**, *Scopula proverai* **sp.n.**, *Scopula uvarovi* (Wiltshire, 1952), *Scopula ochrea* (Hausmann, 2006), *Pseudosterrha colettae* Hausmann, 2006, *Pseudosterrha paulula* (Swinhoe, 1886), *Eupithecia maerkerata* Schütze, 1961, *Eupithecia ultimaria* (Boisduval, 1840), *Zamarada latilimbata* Rebel, 1948, *Heterostegane serrata* (Fletcher, 1958), *Platypepla arabella* Wiltshire, 1983, *Chiasmia assimilis* (Warren, 1899), und *Oreometra fifae* Wiltshire, 1986. Damit erweitert sich die Faunenliste des Oman auf 102 Geometridae-Arten.

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