

Contribution to the Study of the Afrotropical Spilomelinae Guenée, 1854 (Lepidoptera, Crambidae): Distributional Updates on Four Species with New Country Records and Descriptions of Two New Species from the Southern Arabian Peninsula

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Abstract

Taxonomic and faunistic updates on the Afrotropical Spilomelinae (Lepidoptera, Crambidae) based on material from Saudi Arabia and Oman are presented. Two new species are described, namely *Chabulina acutalis* sp.n. and *Herpetogramma rectangularis* sp.n. The adults and the internal morphology are described and figured for each of the new species. The female genitalia of *Herpetogramma rectangularis* sp.n. are unknown. The character states differentiating each of the species from its closest congeners are listed. A determination key to *Chabulina acutalis* sp.n. and its closest Afrotropical relatives is provided. Distributional and taxonomic updates on four further described species are given. *Hymenia perspectalis* (Hübner, 1796) is reported as new to the Arabian Peninsula. *Glyphodes stolalis* Guenée, 1854, *Bradina triangularis* Seizmair, 2022 and *Arnia nervosalis* Guenée, 1849 are reported as new to Saudi Arabia. The male and female genitalia of *G. stolalis* are re-described. The diagnostic characters in the adults and in the internal morphology are listed for each of the species.

Keywords

Chabulina, Distribution, Fauna, *Herpetogramma*, Morphology, Pyraloidea, Taxonomy

1. Introduction

The subfamily Spilomelinae is known as the most diverse subfamily in the Pyra-

loidea, with a total of 4100 described species, 338 genera and 12 tribes [1] [2]. The sub-family has a world-wide distribution, with species occurring in the Neotropical, Oriental, Afrotropical and Palearctic zones. Mally *et al.* present a first revision of the sub-family on tribal level [1]. Furthermore, this study established characters differentiating the sub-family from the closest related sub-family Pyraustinae in the tympanal organs.

The sub-family is under-explored till date both taxonomically and faunistically with regard to distribution patterns at generic and specific level. 20 genera comprise more than 50 species and make up over 80% of the total species of the genus. The genera *Lamprosema* Hübner, 1823, *Syllepte* Hübner, 1823 and *Glyphodes* Guinée, 1854 are viewed as polyphyletic and in need of revision [1] [3] [4].

For the Afrotropical zone both faunistic and taxonomic studies in the subfamily have been centred on South Africa, West Africa and the Malagasy Islands [3] [5]-[10]. The percentage of undescribed taxa in the Afrotropical region is estimated to be 30% [8]. A further lower bound of the absolute number of undescribed species is estimated to be 500 [10].

The Afrotropical zone reaches its northern boundaries in the southern Arabian Peninsula, comprising Oman (province Dhofar), Yemen and the south western parts of Saudi Arabia (provinces Asir, Jizan, Baha, Mekka) in the Sarawat mountain system ranging along the Red Sea. Seizmair gives an overview of the research status of the sub-family for this region [11]. Further most recent further studies of the subfamily for the Arabian Peninsula comprise [12]-[14].

The present study focuses on the genera *Chabulina* Shaffer & Munroe, 2009 and *Herpetogramma* Lederer, 1863, in which species new for science are described, namely *Chabulina acutalis* sp.n. and *Herpetogramma rectangularis* sp.n.. For further four described species, distributional updates are presented based on new country records, namely *Hymenia perspectalis* (Hübner, 1796), which is reported as new for the Arabian Peninsula, *Glyphodes stolalis* Guenée, 1854, *Bradina triangularis* Seizmair, 2022 and *Arnia nervosalis* Guenée, 1849, which are reported as new for Saudi Arabia. For these latter four species the diagnostic character states in the adults and in the internal morphology are listed and figured.

2. Materials and Methods

2.1. Sampling

The specimens presented in this study belong to samples collected by the author in expeditions to Saudi Arabia (province Jizan) and to Oman (province Dhofar). Details in the collection data are given in the material examined sections. The specimens were captured at night by means of light traps equipped with UV power-LEDs. The UV LEDS cover a wave spectrum of 365 nm - 385 nm (LepiLED, Nichia, Tokushima, Japan; EntoLED, Starlight, Weissenburg, Germany). The trapping technique is described in Brehm [15].

2.2. Preparation, Dissection, Digital Image Processing

The adults were photographed after relaxation and subsequent preparation with a CANON EOS M6 Mark II under a MP-E-65mm zoom. For examining the genitalia and tympanal organs, dissection and slide-mounting techniques were applied on the specimens according to the protocols described in Robinson and Maes [16] [17]. The preparation of the genitalia and of the tympanal organs was done under a Motic stereomicroscope (SMZ-171). The slides were photographed with a ToupCam c-mount camera (ToupTek Inc., Zhejiang, China). The images were processed by means of the imaging software Adobe Photoshop PS, Version 26.11.0 (2025).

2.3. Morphological Analyses and Comparisons

Analyses of wing pattern characters and morphological structures in the specimens were done on the images. Structural ratios were calculated on the images by means of the imaging software ToupView, Version 1.0 (ToupTek Inc., Zhejiang, China).

For the descriptions of the new species in the genera *Chabulina* Shaffer & Munroe, 2009 and *Herpetogramma* Lederer, 1863, relevant original descriptions, type figures of adults and genitalia figures in recent literature were reviewed [3] [8] [18]-[34]. The described species were determined based on figures of adults and the male, female genitalia [35]-[38].

2.4. Terminology and Abbreviations

The descriptions of external and internal character states follow the terminology in Maes and Mally *et al.* [1] [17]. Descriptions of the wing venation follow the terminology in Shaffer, Munroe [8].

Abbreviations: ZSM = Zoological State Collection Munich, Munich, Germany.

3. Results - Systematic Account

3.1. Descriptions of New Taxa

Chabulina acutalis sp.n.

Zoobank ID: urn:

lsid:zoobank.org:act:0960B482-4CC8-44B6-AD64-1FA0E93C1F86.

Material: Holotype, ♂, Saudi Arabia, Prov. Jizan, Fayfa Mts., Al Khashah, 17°14'30.21"N, 43°3'40.99"E, 840 m, 21-II-2026, slide no 26GP013, leg. M. Seizmair, coll. ZSM. Paratypes: 2♂, Oman, Prov. Dhofar, Dalkuth, 16°42'16.32", 53°16'8.6", 150m, 23-I-2026, slide no 26GP011, 26GP012, leg. M. Seizmair, coll. ZSM. 1♀, Oman, Prov. Dhofar, Dalkuth, 16°42'16.32", 53°16'8.6", 150m, 24-I-2026, slide no 26GP009, leg. M. Seizmair, coll. ZSM. 1♀, Oman, Prov. Dhofar, Sadah, 17°3'18.59"N, 55°3'46.48"E, 78 m, 17-I-2016, slide no SZPYR1318, leg. M. Seizmair, coll. ZSM. 1♀, Saudi Arabia, Prov. Asir, 2 km NE Sawi, 19°20'0.16"N, 42°3'53.89"E, 1980 m, 01-V-2022, slide no 22GP025, leg. M. Seizmair, coll. ZSM.

External characters (Figure 1(A)-(C)): Wingspan 17.7 - 21.8 mm. Forewing

length 9.4 - 10.6 mm. Head: Flagellum and shaft of the antenna ochreous, shaft interspersed with greyish-white scales, ciliae very short, greyish-white. Frons and vertex greyish-white scaled. Labial and maxillary palpus vertically upturned. Labial palpus in the anterior half greyish-white, interspersed with a patch of darkish-brown scales ventrally, and with a patch of yellowish-brown scales ventro-laterally, posterior half darkish brown to blackish, with an extensive tuft of elongate greyish-white scales in the third segment, total length relative to the diameter of the eye ≈ 0.9 . Maxillary palpus truncate, length relative to the diameter of the eye ≈ 0.3 , segments 1 and 4 greyish-white, segments 2 and 3 darkish-brown. Chaetosemata blackish. Thorax: Dorsum, venter and tegula greyish-white, tegula and ventro-lateral prothorax interspersed with patches of darkish-brown to blackish scales. Legs with the greyish-white, tibia yellowish-ochreous. Forewing 2.8 times longer than wide, apex pointed, slightly downturned, costa convex towards the apex, termen convex near M3, anal border straight, tornus edged. Upper side ground greyish white. Presence of several darkish brown lines and subterminal fasciae: Basally one strongly interrupted, oblique line from the costa to M1, ante-medially two strongly undulated, paralleled lines ranging from the costa to the anal border, both of which are dilated from CuA2 onwards, medially an extensive band composed of a broadened costal stripe and a sub-quadrangular band ranging from the costa to the M2, postmedially two parallelled lines forming a cordate structure with the medial band. Fringe darkish-brown interspersed with greyish-white. Hindwing ≈ 1.4 times longer than wide, apex rounded, slightly protuberant, costal border and termen slightly convex, anal border straight. Upper side ground, lines and subterminal fasciae concolorous with the forewing upper side ground, lines and subterminal fasciae. Medial band composed of two parallelled fine lines, with inward angulation at CuA1, postmedial line slender, undulated, parallelled with the termen. Subterminal line broadened between costa and M1, stalked with the postmedial line at CuA1. Fringe concolorous with the forewing fringe. The fore- and hindwing undersides are identical with the uppersides. Abdomen: Dorsum with the segments greyish-white scaled, inter-segmentally with patches of darkish-brown scales. Venter greyish-white, with yellowish-brown patches in segments A7 and A8. Anal tuft present in the male, with greyish-white scales ventrally and yellowish-brown scales dorsally.

Male genitalia (Figure 2(A)-(B)): Neck of the uncus post-basally strongly tapered, beak elongate, 2.3 times longer than wide, equal in length with the neck, ventrally with fine, elongate chaetae. Tuba analis broad, posterior end rounded, subscaphium marked as lateral sclerotization ranging over the entire length, length relative to the length of the uncus neck ≈ 1.8 . Tegumen shoulders elongate, narrow, asymmetrical. Transtilla arms obliquely upturned, then down-curved, medially in contact thus forming an m-shaped structure. Valva 1.4 times longer than wide. Costal border strongly convex, with post-basal projection, strongly sclerotized. Apex with broad medial rounding. Ventral border with a

concave post-basal projection. Fibula anteriorly and apically constricted, slightly bent, apically down-turned, terminating transversally far above the ventral border. Saccus basally slightly widened, rounded, post-basally with an elongate rod-shaped sclerite. Juxta short, digitiform, with two lobar, acuminate extensions asymmetric in length. Vinculum widened, short, 2.8 times wider than short. Saccus u-shaped. Phallus apodeme with an elongate sclerite, which is posteriorly slightly dilated and with a digitiform extension. Vesica unarmed, bare from cornuti. Ductus ejaculatorius and bulba ejaculatoria with several weakly sclerotized areas.

Female genitalia (Figure 2(C)-(D)): Papilla analis ovate, 3.7 times longer than wide, with elongate, fine chaetae. Posterior and anterior apophyses unprojected. Posterior apophyses constant in width, slightly bent in the anterior end. Anterior apophyses in the posterior third slightly dilated, 1.2 times longer than the posterior apophyses. Antrum weakly sclerotized, of sub-rectangular shape, anteriorly strongly constricted. Colliculum very short, as two short, narrow sclerites, with the space in between membranous. Ductus bursae strongly narrowed in the posterior fifth, then strongly widened, membranous. Ductus seminalis inserted in the posterior constriction. Transition to the corpus bursae smooth, from a widened anterior ductus bursae to an equally wide posterior corpus bursae. Corpus bursae ovate, 1.4 times longer than wide. Signum strongly broadened, with the transversal axis 1.8 times longer than the longitudinal axis, cordate, posterior border with a transversal sclerite, anterior border invaginated, split into two quasi-symmetrical halves by a longitudinal sclerite.

Diagnosis (Table 1): The new species is externally and internally (male and female genitalia) closest to *Chabulina putrisalis* Shaffer & Munroe, 2007, with which it shares the greyish-white scaling in the space between the forewing antemedial and postmedial lines, the extensive cordate structure in the forewing and the bifurcate structure made up of the hindwing subterminal and postmedial lines. The two species both differ externally from the further similar *Chabulina astomalis* (Felder & Rogenhofer, 1875), *Chabulina onychinalis* (Guenée, 1854), *Chabulina amphipeda* (Meyrick, 1939) and *Chabulina tenera* (Butler, 1883) in the following external characters: The spaces between the forewing antemedial and postmedial lines are yellowish scaled in *C. astomalis*, the extensive cordate structure formed by the medial band and the postmedial line is replaced by an ovoid structure reduced in extension in *C. onychinalis* (Maes, 2022). In *C. amphipeda* and *C. tenera* the hindwing subterminal and postmedial lines are paralleled [18] [19].

The new species and its closest relative *C. putrisalis* differ externally in the shape of the forewing antemedial lines - running continuously from the costa to the anal border in the new species, interrupted at M3 and continued by a single broadened line in *C. putrisalis*. The main differences between the two species, however, are in the male and female genitalia (Table 1). The comparison is based on the genitalia figures in [8].

Table 1. Diagnosis - internal morphology, *C. acutalis* sp.n., *C. putrisalis*.

	<i>C. acutalis</i> sp.n.	<i>C. putrisalis</i>
Male genitalia		
Shape, ratio length/width of the beak in the uncus (0: = basally broadened, elongate, ≈ 2.3 , 1: = basally narrowed, elongate, ≈ 6.0)	0	1
Shape of the juxta (0: = plate-shaped; 1: = digitiform with presence of a pair of lobar, posteriorly acuminate extensions)	1	0
Shape of the fibula (0: = apically constricted and pointed, down-bent; 1: = constant in width, apically rounded)	0	1
Shape of the saccus (0: = u-shaped; 1: = stout)	0	1
Sclerotization in the phallus apodeme, presence of tubular structure beside the elongate lateral sclerite (0: = absent; 1: present)	0	1
Sclerotization in the phallus apodeme, shape of the elongate lateral sclerite - presence of posterior dilation (0: = absent; 1: = present)	1	0
Sclerotization in the phallus apodeme, presence of a digitiform cornutus (0: = absent, 1: = present)	1	0
Female genitalia		
Shape of the antrum halves (0: = rectangular, 1: = triangular)	0	1
Shape and sclerotization of the anterior ductus bursae (0: = completely membranous, bare from sclerotization, length/width ≈ 3.8 ; 1: = posterior end sclerotized, length/width ≈ 6.2)	0	1
Shape of the posterior corpus bursae - presence of triangular shaped extension (0: = absent; 1: = present)	0	1

Distribution: Restricted to the southern Arabian Peninsula - Oman (Dhofar), Saudi-Arabia (Asir, Jizan).

Bionomics: The type material was captured on vegetation dense mountainous slopes and wadis. The premature stages, host plant usage, habitat preferences and abundance are subject to further research.

Etymology: The epitheton refers to one of the differential characters in the male genitalia, the presence of acuminate extensions in the juxta (lat. acutus).

Determination key to *C. acutalis* sp.n. and its closest Afrotropical relatives based on the internal morphology (male and female genitalia) (Table 2).

Table 2. Determination key based on internal morphology, *C. acutalis* sp.n. and its closest Afrotropical relatives.

1	Vesica armed with a cornutus consisting of several spines	<i>C. onychinalis</i>
-	Vesica unarmed	2
2	Uncus beak basally strongly widened (length/width ≈ 2.3), juxta with lobar, posteriorly acuminate processes	<i>C. acutalis</i> sp.n.
-	Basal uncus beak narrow (length/width > 5.0), juxta unprocessed	3
3	Posterior corpus bursae with triangular shaped extension, fibula short, widened, posteriorly rounded, phallus apodeme with tubular shaped structure	<i>C. putrisalis</i>

Continued

-	Posterior corpus bursae unprojected, fibula narrow, slender, pointed, phallus apodeme bare from tubular shaped structure	4
4	Ductus bursae constantly narrowed, terminating into an equally narrowed posterior corpus bursae, sclerite in the phallus apodeme dilated at both ends, saccus stout	<i>C. amphipeda</i>
-	Ductus bursae constantly widened, terminating into an equally widened corpus bursae, sclerite in the phallus apodeme with one dilation, saccus u-shaped	<i>C. astomalis</i>

Herpetogramma rectangularis* sp. n.*Zoobank ID:**

urn:lsid:zoobank.org:act:B23B9BBB-2358-4CF8-8058-4C46C4B60E8B.

Material: Holotype, ♂, Saudi Arabia, Prov. Jizan, Fayfa Mts, Al Khashah, 17°14'30.21"N, 43°3'40.99E, 840 m, 25-II-2025, slide no. 25GP076, leg. M. Seizmair, coll. ZSM.

External characters (Figure 1(D)-(F)): Wingspan: 18.9 mm. Forewing length: 9.2 mm. Head: Antenna darkish-yellowish in the shaft and in the flagellum, greyish-white in the ciliae. Vertex and frons with greyish-yellowish scaling. Labial palpus strongly broadened and short, ratio width/length $\approx$ 0.9, length relative to the diameter of the eye 0.60, posteriorly broadly rounded, scaling in segment 1 darkish-brown to blackish, in segments 2 and 3 darkish-grey to darkish-brown. Maxillary palpus slender, acuminate in the last segment, in segment 1 darkish-yellowish, in segments 2 - 4 darkish-brown to blackish, length relative to the length of the labial palpus 0.34. Thorax: Dorsum with greyish-yellowish scaling, metathorax laterally with darkish-brown, sub-quadrangular spots. Venter with greyish scaling. Legs darkish-grey to yellowish-grey. Forewing 2.3 times as long as wide, costa and termen slightly convex, with the termen strongly slanted, tornus edged, anal border straight. Upper side ground darkish-grey, costa yellowish-brown. Presence of two darkish-brown to black cellular spots, one discocellular reniform spot and one small, stroke-like midcellular spot. Presence of two darkish-brown to blackish lines, one straight antemedial line and one postmedial line running straight from the sub-costa, with inward angulation at M1, outward angulation at M3, running zig-zagged from M3 to the anal border. Termen darkish-brown. Fringe darkish-grey. Hindwing with costal border concave, apex protuberant and rounded, tornus edged, ratio width/length 0.86. Upper side ground concolorous with the forewing upper side ground. Presence of a darkish-brown to black midcellular spot and a darkish-brown postmedial line. The postmedial line is strongly undulated, with inward angulations at M1 and CuA2, and outward angulation at M3. Termen and fringe as for the forewing. The fore- and hindwing undersides are identical with the upper sides. Abdomen: Dorsum yellowish-grey, with presence of a darkish-brown anal tuft. Venter whitish-grey.

Male genitalia (Figure 2(E)-(F)): Uncus, basally broadened and slightly narrowed in the distal two thirds, of sub-rectangular shape, ratio width/length 0.42, length relative to the tuba analis 0.80, apex pointed. Subscaphium marked as lat-

eral sclerotization. Ventral border of the valva with a strong convexity in the post-basal sacculus, for the rest slightly concave, apex broadly rounded, costal border strongly convex, inflated and strongly sclerotized. Costal process terminating in the distal fifth of the valva. Presence of an arc-shaped, convex, slender, medially dilated, ventrad-directed fibula in the anterior third of the valva, equal in length with the width of the basal sacculus and terminating far above the ventral border. Basal sacculus strongly broadened, sub-quadrangular shaped. Transtilla of sub-rectangular shape with elongate, acuminate process. Juxta elongate, digitiform, laterally strongly sclerotized. Vinculum strongly broadened, terminating in a strongly constricted, narrowed and shortened saccus, which is v-shaped and with a short ventro-apical process. Vesica with plate-shaped sclerite, an elongate digitiform sclerite in the transition to the coecum and extensive strongly granulated areas. Coecum weakly sclerotized, with granulated areas, rounded. Ductus ejaculatorius and bulba ejaculatoria membranous, bare from sclerotization.

Female genitalia: The female genitalia are unknown.

Diagnosis: The new species is externally differentiated from the Afrotropical *Herpetogramma lunatalis* Seizmair, 2025 and *Herpetogramma undularis* Seizmair, 2025, both of which the male genitalia are unknown in the following character states: shape of the forewing termen - oblique, slanted in the new species, straight in each of the latter two comparative species, shape of the hindwing apex - strongly protuberant in the new species, non-protuberant in each of the two comparative species, scaling of the labial palpus: darkish-brown to blackish in segment 1, in segments 2 and 3 darkish-grey to darkish-brown in the new species, darkish-brown in segment 1, yellowish to greyish in segments 2 and 3 in *H. lunatalis*, darkish-brown in all segments in *H. undularis*. The comparison is based on the figures and descriptions in [34].

The new species is furthermore closely related both externally and in the male genitalia with *Herpetogramma stultalis* (Walker, 1859), *Herpetogramma ochrotinctalis* Inoue, 1982 and *Herpetogramma fuscescens* (Warren, 1892), *Herpetogramma longispina* Wan, Lu & Du, 2019, *Herpetogramma brachyacantha* Wan, Lu & Du, 2019. With these species the new species shares the broadly rounded apex in the valva and the slender, medially dilated fibula terminating above the ventral border of the valva. The new species is unique in this species group in the broadened post-basal uncus of sub-rectangular shape, in the processed sub-rectangular transtilla, in the convex post-basal sacculus and in the sclerotization of the vesica, in particular in the presence of an elongate digitiform sclerite in the transition to the coecum. The comparison is based on adult figures and male genitalia figures in [24] [27].

This species group is differentiated from the Afrotropical *Herpetogramma licarsialis* (Walker, 1859), *Herpetogramma phaeopteralis* Guenée, 1854, *Herpetogramma vacheri* Guillermet, 2008 in the shape of the fibula, which is broadened, strongly sclerotized, paralleled with the ventral border in these species and from the Afrotropical *Herpetogramma brunnealis* (Hampson, 1913) in which the valva

is bare from fibula [18] [28].

Distribution: Known only from the type locality in SW-Saudi Arabia, Fayfa Mts (Prov. Jizan).

Bionomics: The type specimen was captured in a terraced, vegetation-dense slope on the verge of tropical rain forest.

Etymology: The epitheton refers to one of the differential characters in the male genitalia, the strongly broadened, sub-rectangular shaped post-basal uncus.

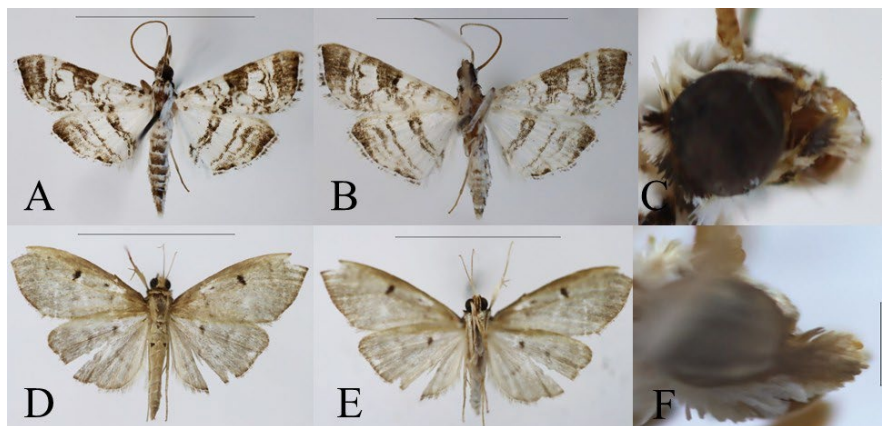


Figure 1. Holotypes, external characters. A - C: *Chabulina acutalis* sp.n., slide no 26GP013. D - F: *Herpetogramma rectangularis* sp.n., slide no 25GP076. A, D: Dorsal views. B, E: Ventral views. C, F: Head profiles. Scale bars A, B, D, E = 10 mm, C, F = 1 mm.

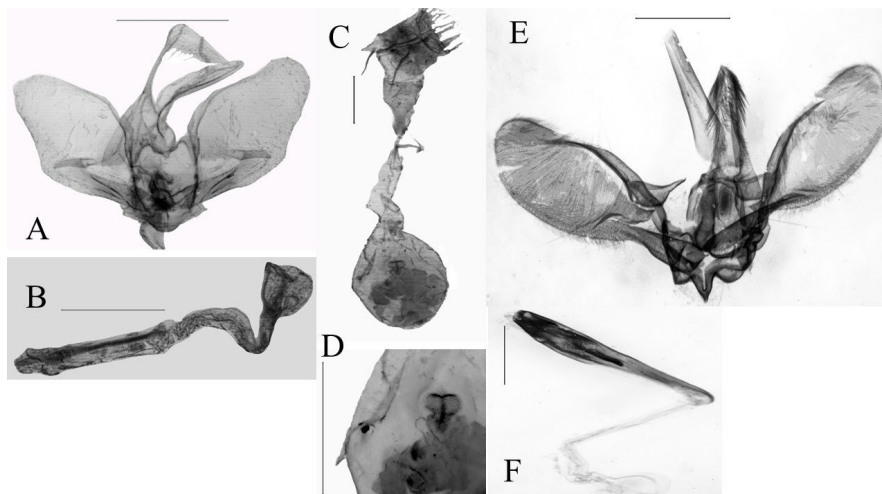


Figure 2. Types, internal characters. A - D: *Chabulina acutalis* sp.n.. A, B: slide no 26GP030. C, D: slide no 26GP009. E, F: *Herpetogramma rectangularis* sp.n., slide no 25GP076. A, E: male genitalia capsule, phallus omitted. B, F: male genitalia, phallus apodeme. C: female genitalia capsule. D: close-up, signum. Scale bars A, B, C; E, F = 1 mm, D = 0.5 mm.

3.2. Taxonomic and Faunistic Updates

Glyphodes stolalis Guenée, 1854

Nomenclature: *Glyphodes stolalis* Guenée, 1854. Guenée (1854): 293. Type lo-

cality: India. Synonyms: *Glyphodes shafferorum* Viette, 1987, Viette (1987): 109. *Glyphodes substolalis* Snellen, 1899, Snellen (1899): 73-74.

Material examined: Saudi Arabia, Prov. Gizan, Fayfa Mts., Al Kasha, 17°14'30.21"N, 43°3'40.99E, 840 m, 30-X-2024, 2 ♂, slide no 25GP006, 25GP007, 1♀, 19-II-2026, slide no 26GP030, leg., prep., coll. M. Seizmair.

Diagnosis (Figure 3(A)): Wingspan 33.0 - 38.4 mm. Forewing length 15.7 - 20.6 mm. Labial palpus fuscous, basally interspersed with white scales. Frons and vertex white. Thorax white, interspersed with fuscous longitudinal lines in the dorsum. Abdomen greyish-fuscous in the dorsum, white in the venter, with fuscous lines in the segments. Presence of a black anal tuft in the male. Forewing upper side ground fuscous. Presence of broadened white rectangular basal and antemedial bands. Presence of medial and postmedial white sub-triangular shaped areas strongly differing in size. Hindwing upper side ground white. Presence of oblique fuscous medial and postmedial lines intersecting near CuA2 and forming a triangular structure. Subterminal area fuscous.

Male genitalia (Figure 4(A)-(C)): Uncus elongate, slender, constant in width, apex with short chaetae, scaphium absent. Tuba analis broad, length relative to the uncus 0.47, slightly sclerotized. Tegumen broadened, rectangular shaped, shoulders strongly sclerotized. Valva sub-rectangular shaped, apex flat and strongly broadened, with long chaetae. Fibula slender, constant in width, concave, reaching to the ventral border. Sacculus broadened, with the dorsal ridge concave and strongly sclerotized. Juxta very slender, acuminate, very short, thorn-shaped. Vinculum broad, quadrangular shaped, ventro-laterally with rounded, strongly sclerotized shoulders, ventro-medially with a short triangular-shaped, posteriad-directed process. Coremata with two strongly sclerotized processes strongly differentiated in length, the shorter one sub-triangular shaped, posteriorly narrowed and rounded, the other one with a broad neck and the posterior end strongly broadened with a multifid structure. Phallus membranous, vesica with one thorn-shaped cornutus, coecum with the anterior end broadened. Ductus ejaculatorius inserted at the anterior end of the coecum, membranous. Bulba ejaculatoria membranous, ovate.

Female genitalia (Figure 5(A)): Papilla analis ovate, 2.4 times longer than wide, covered with fine, long chaetae. Posterior apophyses constant in width, unprojected. Anterior apophyses basally dilated, 1.7 times longer than the posterior apophyses. Ostium membranous. Antrum quadrangular shaped, with paired lateral sclerites. Colliculum present, marked as slender lateral sclerites with a strongly sclerotized space in between. Ductus bursae short, posteriorly widened and strongly sclerotized. Corpus bursae membranous, bare from signum, widened in the posterior fifth, for the rest strongly tapered, elongate, length relative to the ductus bursae transition from the ductus bursae smooth, from a wide ductus bursae to an equally widened posterior corpus bursae, double as long as the ductus bursae.

Distribution: Afrotropical - Cameroon, Congo, Eswatini, Gambia, Gambia,

Kenya, Liberia, Mali, South Africa, Uganda, Zimbabwe, Malagasy Islands (Comoros, Seychelles), Mascarene Islands (La Réunion). Oriental - China, India, Indonesia, Laos, Sri Lanka. Australia [35]. Arabian Peninsula: Oman (Dhofar) [12]. **New for Saudi Arabia** [11] [12].

***Bradina triangularis* Seizmair, 2021**

Nomenclature: *Bradina triangularis* Seizmair, 2021. Seizmair (2021) [37]: 308-312. Type locality: Oman, Dhofar, Ayun Athum Waterfalls.

Material examined: Saudi Arabia, Prov. Jizan, Fayfa Mts., Al Khashah, 17°14'30.21"N, 43°3'40.99E, 640 m, 30-X-2024, 1♂, slide no 25GP066, 24-II-2025, 6♂, 3♀, slide no. 25GP064, 25GP066 - 25GP072, leg. et coll. M. Seizmair.

Diagnosis (Figure 3(B), Figure 4(D)-(E), Figure 5(B)-(D)): Wingspan: 21.0 - 26.2 mm. Forewing length: 11.0 - 17.8 mm. Fore- and hindwing ground whitish-grey, densely interspersed with darkish-grey to blackish scales all over the wing, with yellowish fasciae in the subterminal area near the apex and at the posterior half of the costa. Forewing basal and antemedial lines absent. Discocellular spot present, claviform, darkish-grey. Postmedial line present, concolorous with the discocellular spot, strongly angulated at R5, from the angulation onwards paralleled with the termen. Hindwing postmedial line concolorous with the forewing postmedial line, angulated at R2. Valva in the male genitalia with the basal costa unprojected, apex pointed. Transtilla basally strongly broadened, triangular shaped. Juxta plate-shaped, unprojected, posteriorly rounded. Signum in the female genitalia with the spinulae wide-spaced, differing in size. Ductus bursae dilated at the transition to the corpus bursae, narrowed and constant in width in the posterior half. Sclerotization present in the posterior ductus bursae near the ductus seminalis, marked as several tube-shaped elongate sclerites differing in length. Antrum with sclerotization marked as two lateral plate-shaped sclerites and one medial rod-shaped sclerite.

Remark: The species is differentiated from the externally and internally similar *Bradina geminalis* Caradja, 1927 in the following further character states in the male genitalia based on [38] beyond the already known diagnosis in [37]: Shape of the apex in the valva - pointed in *B. triangularis*, broadly rounded in *B. geminalis*, shape of the juxta: posteriorly rounded in *B. triangularis*, posteriorly pointed, acuminate in *B. geminalis*, shape of the saccus: stout, u-shaped, widened in *B. triangularis*, v-shaped, narrowed in *B. geminalis*.

Distribution: Afrotropical - Oman (Prov. Dhofar). **New for Saudi Arabia** [37].

***Arnia nervosalis* Guenée, 1849**

Nomenclature: *Arnia nervosalis* Guenée, 1849. Guenée (1849): 399. Type locality: Algeria, Tonga Lake, surroundings of Lacalle.

Material examined: Saudi Arabia, Prov. Gizan, Fayfa Mts., Al Kasha, 17°14'30.21"N, 43°3'40.99E, 640 m, 10-II-2024, 1♀, slide no 25GP088, leg., prep, coll. M. Seizmair.

Diagnosis (Figure 3(C), Figure 5(E)): Wingspan: 11.2 mm. Forewing length: 4.7 mm. Fore- and hindwing ground greyish-brown. Presence of a forewing dis-

cocellular spot, darkish-brown, orbiform. Presence of darkish-brown fasciae in the fore- and hindwing subterminal areas. Fore- and hindwing veins with darkish-brown scaling. Hindwing bare from maculation. Papilla analis in the female genitalia with short chaetae, ovate. Posterior and anterior apophyses unprojected, constant in width, length of the posterior apophyses relative to the anterior apophyses 0.7. Ostium membranous. Antrum strongly broadened, sub-quadrangular shaped, strongly sclerotized. Ductus bursae broadened, width relative to length 0.47, strongly sclerotized over 75% of its length, anterior fourth membranous, transition to the corpus bursae smooth. Corpus bursae bare from signum, ovate, narrowed, membranous, appendix present, which is strongly broadened and with extensive granulated areas.

Distribution: Palearctic - South Europe (Spain, Portugal, Southern France, Central and Southern Italy, Malta, Sicily, Sardinia), Northern Africa (Algeria, Morocco, Libya), Middle East (Palestine, Southern Iran) [36]. Afrotropical - Oman (Dhofar) [11]. **New for Saudi Arabia** [11] [35].

***Hymenia perspectalis* (Hübner, 1796)**

Nomenclature: *Pyrallis perspectalis* Huebner, 1796. Huebner (1796): 18. Type locality: Great Britain, England. Synonyms: *Desmia rhinthonalis* Walker, 1859, Walker (1859): 932. *Hymenia phrasiusalis* Walker, 1859, Walker (1859): 944. *Spoladea exportalis* Guenée, 1854. Guenée (1854): 227. *Spoladea spilotalis* Saalmüller, 1880, Saalmüller (1880): 299–300. *Zinckenia primordialis* Zeller, 1852, Zeller (1852): 56–57.

Material examined: Saudi Arabia, Prov. Jizan, Jabal Al Assouad, 17°33'44.39N, 42°53'15.69"E, 1915 m, 21-II-2025, 1 specimen (sex unidentified), leg., coll. M. Seizmair.

Diagnosis (Figure 3(D)): Wingspan: 16.4 mm. Forewing length: 6.8 mm. The species is externally close to *Spoladea recurvalis* (Fabricius, 1775), from which it is differentiated by the absence of a forewing medial white line, which is replaced by two white spots, near R4 and CuA1, and by the shape of the hindwing medial line, which is straight, constant in width in *S. recurvalis*, invaginated near M1, and strongly tapered from CuA1 onwards.

Distribution: Recorded in all main zones - Neotropical, Oriental, Palearctic, Afrotropical - Mascarene and Malagasy Islands, South Africa, Congo, Uganda, Zambia, Equatorial Guinea [35]. **New for the Arabian Peninsula** [35] [36].

Remark: The external character states in wing maculation are sufficient for determination and differentiation from the closest *S. recurvalis*. The abdomen got lost.

4. Conclusion

Two new species, *Chabulina acutalis* sp.n. and *Herpetogramma rectangularis* sp.n., were described. The differential diagnostic character states with regard to the closest congeners were listed for each of the new species. A determination key to *Chabulina acutalis* sp.n. and its closest Afrotropical relatives was pro-

vided. The life history, premature stages, host plant usage, ecology and abundance of each of the newly described species is subject of further research. Distributional updates were given for four further described species, namely *Hymenia perspectalis* (Hübner, 1796), *Glyphodes stolalis* Guenée, 1854, *Bradina triangularis* Seizmair, 2021 and *Arnia nervosalis* Guenée, 1849. The first was reported as new to the Arabian Peninsula, the latter three were reported as new to Saudi Arabia.

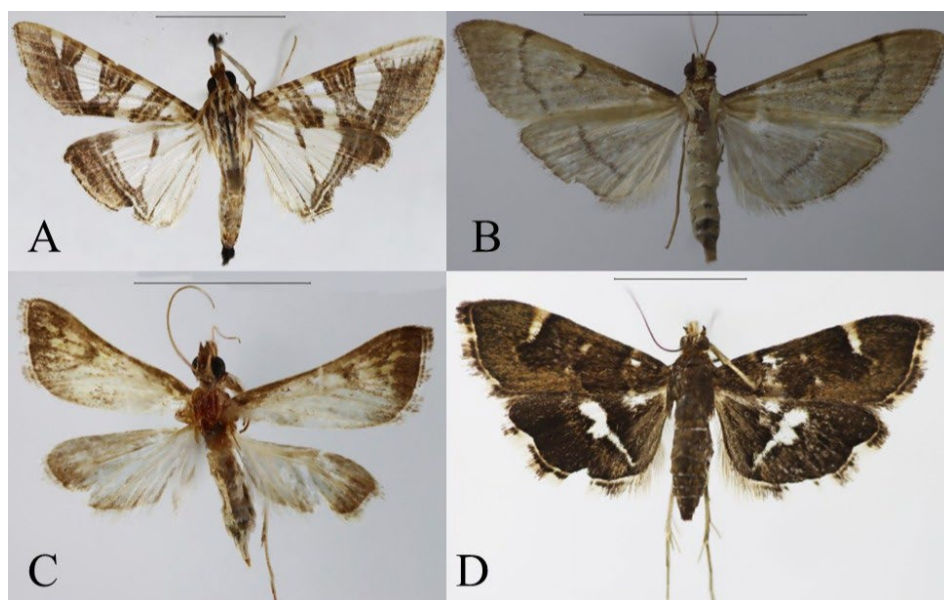


Figure 3. External characters, dorsal views. A: *G. stolalis*, slide no 25GP006. B: *B. triangularis*, slide no 25GP067. C: *A. nervosalis*, slide no 25GP088. D: *H. perspectalis*, slide no 25GP078. Scale bars A, B = 10 mm, C, D = 5 mm.

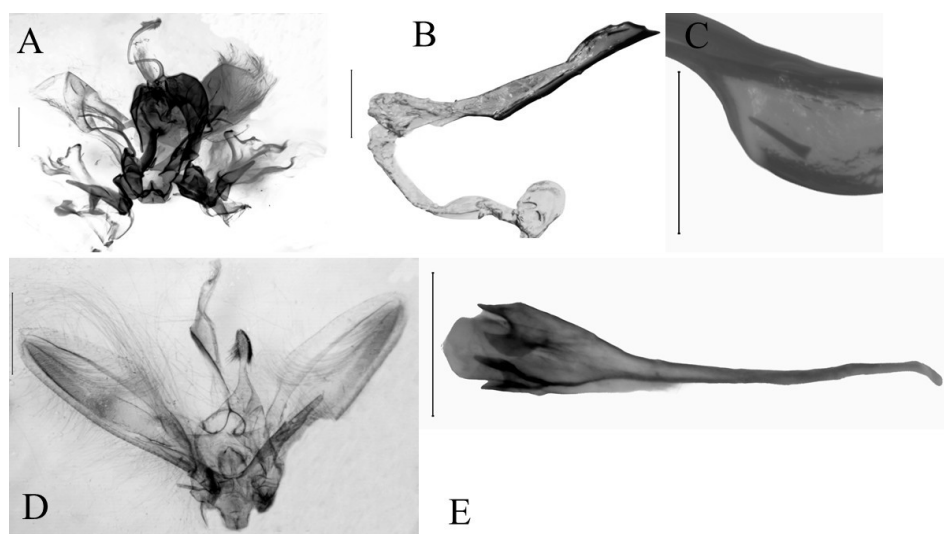


Figure 4. Internal characters, male genitalia. A - C: *G. stolalis*, slide no 25GP006. D, E: *B. triangularis*, slide no 25GP064. A, D: genitalia capsule, phallus omitted. B, E: phallus apodeme. C: close-up, vesica. Scale bars A, B, D, E = 1 mm, C = 0.5 mm.

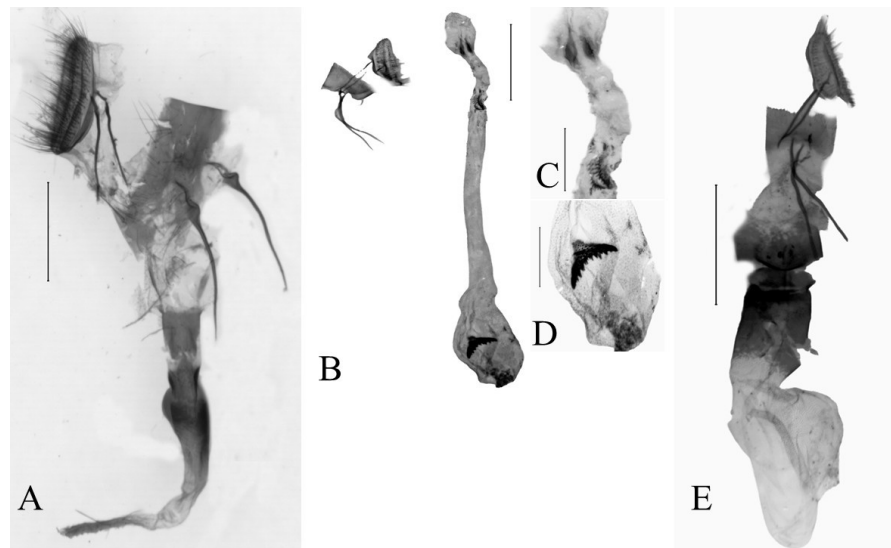


Figure 5. Internal characters, female genitalia: A: *G. stolalis*, slide no 26GP030. B - D: *B. triangularis*, slide no 25GP071. B: genitalia capsule. C: close-up, antrum. D: close-up, signum. E: *A. nervosalis*, slide no 25GP088. Scale bars A, B, E = 1 mm, C, D = 0.5 mm.

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Conflicts of Interest

The author declares that there are no conflicts of interest, neither of personal nor of material kind that could have influenced the results of this work.

References

- [1] Mally, R., Hayden, J., Neinhuis, C., Jordal, B.H. and Nuss, M. (2019) The Phylogenetic Systematics of Spilomelinae and Pyraustina (Lepidoptera: Pyraloidea: Crambidae) Inferred from DNA and Morphology. *Arthropod Systematics and Phylogeny*, **77**, 141-204.
- [2] Nuss, M., Landry, B., Mally, R., Vegliante, F., Tränkner, A., Bauer, F., *et al.* (2023) Global Information System on Pyraloidea. <https://www.pyraloidea.org/>
- [3] Maes, K.V.N. (2023) Studies on African Crambidae II: On the Identity of *Asopia onychinalis* Guenée, 1954, Its Synonyms, Generic Placement and Related Species (Pyraloidea: Crambidae: Spilomelinae). *Metamorphosis*, **33**, 85-91. <https://doi.org/10.4314/met.v33i1.11>
- [4] Solis, M.A., Mally, R., Hayden, J.E. and Nuss, M. (2023) Revision of the Type Species of *Syllepte* Hübner and Other Spilomeline Genera Recently Synonymized (Lepidoptera: Crambidae). *Zootaxa*, **5389**, 343-361. <https://doi.org/10.11646/zootaxa.5389.3.3>
- [5] Poltavsky, A.N., Kravchenko, V.D., Traore, M.M., Traore, S.F., Gergely, P., Witt, T.J., *et al.* (2018) The Pyraloidea (Lepidoptera) Fauna of the Woody Savannah Belt in Mali,

- West Africa. *Zootaxa*, **4457**, 39-69. <https://doi.org/10.11646/zootaxa.4457.1.2>
- [6] Poltavsky, A.N., Safian, S., Simonics, G., Kravchenko, V.D. and Müller, G.C. (2019) The Pyraloidea (Lepidoptera) Fauna in the Liberian Nimba Mountains, West Africa, at the End of the Dry Season. *Israel Journal of Entomology*, **49**, 11-40.
- [7] Viette, P. (1990) Faune de Madagascar. Supplément 1. Liste recapitulative des Lépidoptères Hétérocères de Madagascar. Muséum national d'Histoire naturelle, 1-261.
- [8] Shaffer, J.C. and Munroe, E.G. (2007) Crambidae of Aldabra Atoll (Lepidoptera: Pyraloidea). *Tropical Lepidoptera*, **14**, 1-110.
- [9] Krüger, M. (2022) Checklist of the Lepidoptera of Southern Africa. *Metamorphosis*, **31**, 1-201. <https://doi.org/10.4314/met.v31i2.2>
- [10] Maes, K.V.N. (2024) Studies on Crambidae V: Chalcibotys, a New Genus of Spilomelinae from Africa (Lepidoptera: Pyraloidea: Crambidae: Spilomelinae). *Metamorphosis*, **35**, 7-10. <https://doi.org/10.4314/met.v35i1.2>
- [11] Seizmair, M. (2022) Faunistic and Taxonomic Notes on Eleven Recently Recorded Species of Spilomelinae Guinée, 1854 (Lepidoptera, Crambidae) from the Arabian Peninsula with an Updated Checklist. *Zoological and Entomological Letters*, **2**, 21-30. <https://doi.org/10.22271/letters.2022.v2.i2a.43>
- [12] Rashdi, S. (2026) Taxonomic Revision and Morphological Characterization of Spilomelinae (Lepidoptera: Crambidae) in the Eastern Arabian Peninsula. *Journal of Entomology and Zoology Studies*, **14**, 275-280. <https://doi.org/10.22271/j.ento.2026.v14.i2c.9803>
- [13] Nai, Y. (2026) Distribution Patterns and Habitat Associations of Spilomelinae (Crambidae) across Arid Ecosystems of the United Arab Emirates. *International Journal of Geography, Geology and Environment*, **8**, 163-167. <https://doi.org/10.22271/27067483.2026.v8.i6b.818>
- [14] Otaibi, M. (2026) Molecular Phylogenetics and Species Delimitation of Recently Recorded Spilomelinae Moths from Saudi Arabia. *International Journal of Molecular Biology and Biochemistry*, **8**, 38-42. <https://doi.org/10.33545/26646501.2026.v8.i5a.159>
- [15] Brehm, G. (2017) A New LED Lamp for the Collection of Nocturnal Lepidoptera and a Spectral Comparison of Light-Trapping Lamps. *Nota Lepidopterologica*, **40**, 87-108. <https://doi.org/10.3897/nl.40.11887>
- [16] Robinson, G. (1976) The Preparation of Slides of Lepidoptera Genitalia with Special Reference to the Microlepidoptera. *Entomologist's Gazette*, **27**, 127-132.
- [17] Maes, K.V.N. (1995) A Comparative Morphological Study of the Adult Crambidae (Lepidoptera, Pyraloidea). *Proceedings and Annals of the Belgian Entomological Royal Society*, **131**, 383-434.
- [18] Guillermet, C. (2009) The Heterocera of La Réunion, Volume 3—Pyralidae and Crambidae. Nature Discovery.
- [19] Butler, A.G. (1883) On a Collection of Indian Lepidoptera Received from Lieut.-Colonel Charles Swinhoe, with Numerous Notes by the Collector. *Proceedings of the Zoological Society of London*, **1883**, 144-175.
- [20] Hampson, G.F. (1912) The Moths of India. Supplementary Paper to the Volumes in "The Fauna of British India". *Journal of the Bombay Natural History Society*, **21**, 1222-1272.
- [21] Meyrick, E. (1939) New Microlepidoptera, with Notes on Others. Transactions of the Royal Entomological Society of London, **89**, 47-62. <https://doi.org/10.1111/j.1365-2311.1939.tb01022.x>
- [22] Joannis, J. (1932) Lépidoptères Hétérocères des Mascareignes. In: Société entomo-

- logique de France, *Livre Centenaire de la Société entomologique de France*, Société entomologique de France, 427-456.
- [23] Joannis, J. (1927) Pyralidae d'Afrique australe, principalement du district de Lourenço-Marques. *Bulletin de la Société lépidoptérologique de Genève*, **5**, 181-256.
 - [24] Lu, X.Q., Wan, J.P. and Du, X.C. (2019) Three New Species of *Herpetogramma* Lederer (Lepidoptera, Crambidae) from China. *ZooKeys*, **865**, 67-85.
<https://doi.org/10.3897/zookeys.865.35111>
 - [25] Yamanaka, H. (1976) Two New Species of *Herpetogramma* from Japan, with a Note on the Known Species (Lepidoptera, Pyralidae). *Tinea*, **10**, 1-6.
 - [26] Yamanaka, H. (2003) Descriptions of Two New Species of the Genus *Herpetogramma* Lederer from Japan (Crambidae, Pyraustinae). *Tinea*, **17**, 225-228.
 - [27] Inoue, H. (1982) Pyralidae. In: Inoue, H., Sugi, S., Kuroko, H., Moriuti, S. and Kawabe, A., Eds., *Moths of Japan*, Kodansha, 223-314.
 - [28] Guillermet, C. (2008) Contribution à l'étude des Hétérocères de l'île de La Réunion: révision des genres *Herpetogramma* Lederer, 1863 et *Syllepte* Hübner, 1823 et description de six nouveaux taxons de Spilomelinae (Lepidoptera Crambidae). *L'Entomologiste*, **64**, 179-188.
 - [29] Walker, F. (1859) Part XVIII. Pyralides. *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum*, **18**, 509-798.
 - [30] Mabille, P. (1900) Lepidoptera Nova Malgassica et Africana. *Annales de la Société entomologique de France*, **68**, 723-753.
<https://doi.org/10.1080/21686351.1899.12279756>
 - [31] Hampson, G.F. (1913) LXII. Descriptions of New Species of Pyralidae of the Subfamily Pyraustinae. *Annals and Magazine of Natural History*, **11**, 509-530.
<https://doi.org/10.1080/00222931308693351>
 - [32] Park, B.S., Qi, M.J., Na, S.M., Lee, D.J., Kim, J.W. and Bae, Y.S. (2016) Two Newly Recorded Species of the Genus *Herpetogramma* (Lepidoptera: Crambidae: Spilomelinae) in Korea. *Journal of Asia-Pacific Biodiversity*, **9**, 230-233.
<https://doi.org/10.1016/j.japb.2016.03.007>
 - [33] Seizmair, M. (2021) Taxonomic and Faunistic Results on the *Spilomelinae* Guenée, 1854 (Lepidoptera: Crambidae) from the Southern Arabian Peninsula with Descriptions of Three New Species. *American Journal of Entomology*, **5**, 1-9.
<https://doi.org/10.11648/j.aje.20210501.11>
 - [34] Seizmair, M. (2026) Contribution to the Knowledge of the Afrotropical Spilomelinae (Lepidoptera, Crambidae): An Unknown Diversity in the Genus *Herpetogramma* Lederer, 1863 on the Southern Arabian Peninsula with Five New Species. *Advances in Entomology*, **14**, 1-25. <https://doi.org/10.4236/ae.2026.141001>
 - [35] De Prins, J. and De Prins, W. (2026) Afromoths Online Database of Afrotropical Moth Species (Lepidoptera). <https://www.afromoths.net/>
 - [36] Slamka, F. (2013) Pyraloidea of Europe, Pyraustinae & Spilomelinae, Identification-Distribution-Habitat-Biology. Volume 3. Frantisek Slamka.
 - [37] Seizmair, M. (2021) First Records of the Genus *Bradina* Lederer, 1863 (Lepidoptera, Crambidae, Spilomelinae) from the Arabian Peninsula with Remarks on the Taxonomy of the Genus and Description of a New Species. *International Journal of Entomology Research*, **6**, 307-312.
 - [38] Sivaperuman, C. and Rao, B.S.K. (2024) Four Newly Recorded Species of Spilomelinae (Lepidoptera, Crambidae) from India. *Journal of Asia-Pacific Biodiversity*, **17**, 678-681. <https://doi.org/10.1016/j.japb.2024.05.010>