Beitr. Ent.	Keltern	ISSN 0005 - 805X
59 (2009) 2	S. 489 - 512	15.12.2009

New or poorly known Tineidae from Mauretania, Morocco, Algeria, and Tunisia

(Lepidoptera)

With 41 figures

Reinhard Gaedike

Summary

As the result of the study of tineid material, which was collected in Mauretania, Morocco, Algeria and Tunisia, four species are newly recorded from North Africa (*Morophaga choragella* (Denis & Schiffermüller, 1775), *Nemapogon sardica* Gaedike, 1983, *Nemapogon picarella* (Clerck, 1759), *Cephimallota crassiflavella* Bruand, 1851); two species, (*Infurcitinea marcunella* (Rebel, 1901), *Crassicornella agenjoi* (Petersen, 1957)) are newly recorded from Mauretania, four species (*Neurothaumasia ankerella* (Mann, 1867), *Elatobia fuliginosella* (Lienig & Zeller, 1846), *Anomalotinea paepalella* (Walsingham, 1907), *Trichophaga tapetzella* (Linnaeus, 1758)) are newly recorded from Morocco; seven species (*Rhodobates unicolor* (Staudinger, 1870), *Eudarcia nigraella* (Mariani, 1937), *Infurcitinea lambessella* Petersen, 1958, *Stenoptinea cyaneimarmorella* (Millère, 1844), *Elatobia fuliginosella* (Lienig & Zeller, 1846), *Trichophaga tapetzella* (Linnaeus, 1758), *Proterospastis autochthones* (Walsingham, 1907)) are newly recorded from Tunisia. The six species (*Infurcitinea maura* Petersen, 1962, *Infurcitinea lambessella* Petersen, 1958, *Infurcitinea incertula* (Meyrick, 1928), *Reisserita chalcopterella* (Zerny, 1935), *Reisserita luteopterella* Petersen, 1957, *Anomalotinea cubiculella romei* (Turati, 1930)) are recorded from material other than the types for the first time. A female of *Crassicornella zernyi* (Petersen, 1957) is recorded for the first time, and *Catabola atlantis* Zagulajev, 1975 is established as a new synonym of *C. zernyi*. The following taxa are described as new: *Nemapogon algerica* **sp. n.**, *Infurcitinea italicoides* **sp. n.**, *Reisserita bettagi* **sp. n.**, *Reisserita stengeli* **sp. n.**, *Reisserita karsholti* **sp. n.**, *Anomalotinea wernoi* **sp. n.**, *Anomalotinea derrai* **sp. n.**, and *Amphixystis maroccana* **sp. n.** A checklist of species, at present known from Mauretania, Morocco, Algeria and Tunisia is given.

Zusammenfassung

Im Ergebnis der Untersuchung von Tineiden-Material, welches in Mauretanien, Marokko, Algerien und Tunesien gesammelt wurde, konnten für Nordafrika vier Arten (*Morophaga choragella* (Denis & Schiffermüller, 1775), *Nemapogon sardica* Gaedike, 1983, *Nemapogon picarella* (Clerck, 1759), *Cephimallota crassiflavella* Bruand, 1851), für Mauretanien zwei Arten (*Infurcitinea marcunella* (Rebel, 1901), *Crassicornella agenjoi* (Petersen, 1957)), für Marokko vier Arten (*Neurothaumasia ankerella* (Mann, 1867), *Elatobia fuliginosella* (Lienig & Zeller, 1846), 1846) *Anomalotinea paepalella* (Walsingham, 1907), *Trichophaga tapetzella* (Linnaeus, 1758)), für Tunesien sieben Arten (*Rhodobates unicolor* (Staudinger, 1870), *Eudarcia nigraella* (Mariani, 1937), *Infurcitinea lambessella* Petersen, 1958, *Stenoptinea cyaneimarmorella* (Millière, 1844), *Elatobia fuliginosella* (Lienig & Zeller, *Trichophaga tapetzella* (Linnaeus, 1758), *Proterospastis autochthones* (Walsingham, 1907)) nachgewiesen werden. Die sechs Arten *Infurcitinea maura* Petersen, 1962, *Infurcitinea lambessella* Petersen, 1958, *Infurcitinea incertula* (Meyrick, 1928), *Reisserita chalcopterella* (Zerny, 1935), *Reisserita luteopterella* Petersen, 1957, *Anomalotinea cubiculella romei* (Turati, 1930) wurden erstmals nach den Typenfunden festgestellt. Von *Crassicornella zernyi* (Petersen,

DOI: 10.21248/contrib.entomol.59.2.489-512

1957) konnte das Weibchen erstmals nachgewiesen werden, *Catabola atlantis* Zagulajev, 1975 wird als neues Synonym von *C. zernyi* angesehen. Die folgenden Arten werden als neu beschrieben: *Nemapogon algerica* **sp. n.**, *Infurcitinea italicoides* **sp. n.**, *Reisserita bettagi* **sp. n.**, *Reisserita stengeli* **sp. n.**, *Reisserita karsholti* **sp. n.**, *Anomalotinea wernoi* **sp. n.**, *Anomalotinea derrai* **sp. n.**, and *Amphixystis maroccana* **sp. n.** Es wird eine Checkliste der bisher aus den Ländern Mauretanien, Marokko, Algerien und Tunesien nachgewiesenen Arten zusammengestellt.

Key words

Mauretania, Morocco, Algeria, Tunisia; new records; new species; new synonymy.

Introduction

During the past few years it was possible for me, through the courtesy of several colleagues, to study many tineids from the countries mentioned above. As a result it is possible to present first records for North Africa, first country records, and some new records for species previously only known from types. Additionally, eight new species are established, which are described below. The studied material is deposited in various museums or in the private collections of the collectors.

The checklist provides an overview of present knowledge of the Tineidae in the four countries here studied, based on material checked in the last 50 years by G. Petersen and myself.

The ink drawings of the genitalia were made at different magnifications. The scale line accompanying each drawing represents 0.5 mm.

Abbreviations

The abbreviations of the institutional collections, in which the material studied is deposited, follow the list "Insect and Spider Collections of the World" from the Bishop Museum/Honolulu (http: //hbs.bishopmuseum.org/codens).

Coll. Baldizzone	Giorgio Baldizzone/Italy: Asti
Coll. Bassi	Graziano Bassi/Italy: Torino
Coll. Bettag	Erich Bettag/Germany: Dudenhofen
Coll. Derra	Georg Derra/Germany: Reckendorf
Coll. Keller	Rudolf Keller/Germany: Sulzemoos
Coll. Meyer	Marc Meyer/Germany: Perl-Kesslingen
Coll. Retzlaff	Hans Retzlaff/Germany: Lage
Coll. Stübner	Andreas Stübner/Germany: Jänschwalde-Ost
Coll. Werno	Andreas Werno/Germany: Nunkirchen
BMNH	United Kingdom, London, The Natural History Museum
DEI	Germany, Müncheberg, Senckenberg Deutsches Entomologisches Institut
ISZP	Poland, Krakow, Polish Academy of Sciences, Institute of Systematic Zoology
MNHN	France, Paris, Muséum National d'Histoire Naturelle
ZIN	Russia, St. Petersburg, Russian Academy of Sciences, Zoological Institute
ZMHB	Germany, Berlin, Museum für Naturkunde der Humboldt-Universität
ZMUC	Denmark, København [= Copenhagen], University of Copenhagen, Zoological Museum

DOI: 10.21248/contrib.entomol.59.2.489-512

Acknowledgments

I am thankful to my colleagues for the courtesy which make it possible for me to study the tineid material. Special thanks to Christian Kutzscher for making colour pictures, and to Andrew Liston for linguistic corrections.

Systematics

Rhodobates unicolor (Staudinger, 1870)

Tunisia: 1 ♂, 40 km südl. Tunis, 29.ix.2007, leg. B. Schacht; Coll. Stübner; 1 ♂, Prov. Nabeul, Umg. Soliman, Borj-Cedria, 5.x.2007; leg. B. Schacht; DEI: **New country records.**

Morophaga choragella (Denis & Schiffermüller, 1775)

Morocco: 1 ♀, Mittl. Atlas, Ifrane, 22.v.1997, leg. Saksida, Coll. Keller; **Tunisia**: 1 ♀, Maknassy, 28.viii.1937, MNHN: **First records for North Africa.**

Nemapogon algerica sp. n.

Material:

Holotype ♂, "Museum Paris, Algérie Edough, P. Lesne 1908" [printed label]; "10. 08"[handwritten label]; "*Tinea cloacella* Hw."[handwritten label]; "Gen.präp. [genitalia slide] Gaedike NR. 6337"; "Holotypus *Nemapogon algerica* sp. n. det. R. Gaedike 2009"; MNHN.

Paratypes: 1 ♀ with the same dates, on the same stage; MNHN; 1 ♂, "Museum Paris, Algérie Edough, P. Lesne 1908" [printed label]; "oct. [19]08"[handwritten label]; "Gen.präp. [genitalia slide] Gaedike NR. 6264"; "Paratypus *Nemapogon algerica* sp. n. det. R. Gaedike 2009"; DEI.

Description (Fig. 1):

Wingspan 12-13 mm; head creamy, laterally darker, palpi inside creamy, outside darker, second segment with some outwards-directed bristles; legs inside creamy, outside darker, tips of tarsal segments also creamy; thorax creamy, overlaid with numerous grey-brown scales, tegulae dark grey-brown, apex lighter; forewing with the pattern of dark brown and brown patches and stripes, characteristic for the genus: at 1/2 an oblique dark brown band, nearly reaching dorsum, the second half lighter brown, from 1/2 to apex costa with five short dark brown stripes; fringes creamy, with a dark brown line; the apical half of forewing overlaid with dark and light brown patches; hindwing white.

Male genitalia (Figs 9-12): Uncus broad, apically cut; gnathos arms after the first third bent, with a long pointed spur-shaped processus, the distal part narrower as the proximal part, with curved tip; saccus short; valve with pointed tip, the bristled digitus on valva with enlarged rounded tip, anellus with two blunt tips, basally rounded; phallus two times longer than valva, after 1/2 with a break, the distal part more strongly sclerotized than basal part, with broad tooth-like lateral processus, the shape is variable (see Fig. 12).

Female genitalia (Figs 13-14): Eighth tergite proximally with short narrow apophysae-like sclerotizations; ostium convex, curved distally, laterally edged, more strongly sclerotized than other parts, funnel-shaped, antrum also more strongly sclerotized; in ductus bursae at 1/2 of the length

DOI: 10.21248/contrib.entomol.59.2.489-512

an area with some rows of scale-shaped sclerotization, hardly more strongly sclerotized than the other ductus.

Life history: Unknown.

Etymology: Named after the country in which the specimens were collected.

Remarks:

The general structure of male genitalia is characteristic for the genus, but the shape of the gnathos arms differs from all other known species, phallus with the tooth-like lateral sclerotization and the break at 1/2. In female genitalia the shape of ostium is similar to several species of the *gravosaella*-group.

Nemapogon sardica Gaedike, 1983

Morocco: 11 ♂, 3 ♀, Moyen Atlas, Foret des Cedres, 1700 m, 33°24'N, 05°10'E, 8.vii.1994, leg. Stengel; Coll. Derra DEI; 1 ♀, Mittlerer Atlas, Mischliffen, 2000 m, 29.vii.1993, leg. Stengel; Coll. Derra; 1 ♀, H. Atlas, Zeida near Boumia, 1400 m, 7.viii.1997, leg. et Coll. Bettag; **Algeria:** 1 ♀, Prov. Oran, Sidi-bel-Abbes, 17.vi.1916, leg. Rotrou, genitalia slide no. 12196 (erroneously indicated as *Nemapogon levantina* Petersen, 1961 by Robinson (1980); BMNH; **Tunisia:** 1 ♀, Ain Draham area, 5. - 18.v.1988, Zool. Mus. Copenhagen Exp.; ZMUC; 1 ♀, Tabarka area, 7. - 18.v.1988, Zool. Mus. Copenhagen Exp.; ZMUC; 1 ♀, Lagh'Ghad..., 17.viii.1919, leg. C. Dumont; MNHN: **First records for North Africa.**

Nemapogon picarella (Clerck, 1759)

Morocco: 1 ♀, Ifrane, Mn. Atlas, 1650 m, 15. - 30.vi.1939, leg. C. Rungs; MNHN: **First record for North Africa.** More material is needed to verify this distribution, because the species was hitherto known only from Europe and from the eastern part of Palaearctic, though, the Ifrane area has biotope (forests), in which this species could occur.

Neurothaumasia ankerella (Mann, 1867)

Morocco: 4 ♂, Rabat, Forêt de Mamora, 25. - 26.iv.1989, Exp. Mus. Copenhagen; ZMUC: **New country record.**

Eudarcia nigraella (Mariani, 1937)

Tunisia: 1 ♂, 1 ♀ Tabarka, ex l. 15., 17.vi.1975, leg. H. Retzlaff; Coll. Retzlaff: **New country record.**

Remarks:

There were given no information about the substratum, on which was bred these specimens.

DOI: 10.21248/contrib.entomol.59.2.489-512

Infurcitinea maura Petersen, 1962

Morocco: 1 ♂, Rabat, Forêt de Mamora, 25. - 26.iv.1989, Exp. Mus.Copenhagen; ZMUC: **First record other than type series.**

Infurcitinea lambessella Petersen, 1958

Tunisia: 2 ♂, Ain Draham area, 5. - 18.v.1988, Zool. Mus. Copenhagen Exp.; ZMUC: **New country record, first record other than type series.**

Infurcitinea marcunella (Rebel, 1901)

Mauretania: 1 ♂, Mauretania, 1887, leg. Staudinger; ISZP: **New record for the country.**

Infurcitinea italicoides sp. n.

Material:

Holotype ♂ "Marokko, Imili Straßenrand [roadside], 31°09'45" – 07°55'49", Lichtfang [lux] 19.05.2005, leg. Andreas Werno"; "Gen. präp. [genitalia slide] Gaed.[ike] Nr. 5356"; "Holotypus ♂ *Infurcitinea italicoides* sp. n. det. R. Gaedike 2008"; Coll. Werno.

Paratypes: 2 ♂, 1 specimen without abdomen "Marokko, Westlich Anezi Straßenrand [roadside], 29°40'09" – 09°27'32", Lichtfang [lux], 17.05.2005, leg. Andreas Werno (one specimen with genitalia slide Nr. 5345); "Paratypus ♂ *Infurcitinea italicoides* sp. n. det. R. Gaedike 2008"; Coll. Werno; DEI; 2 ♂ "Marokko, Arbaa Sahel, 29°36'46" – 09°54'20", Lichtfang [lux], 14.05.2005, leg. Andreas Werno (one specimen with genitalia slide Nr. 6185)"; "Paratypus ♂ *Infurcitinea italicoides* sp. n. det. R. Gaedike 2008"; Coll. Werno; DEI.

Description (Fig. 2):

Wingspan 8 mm; Head brush cream-coloured, from neck to basis of antennae dark brown, clearly separated from the cream-coloured region; antennae dark brown on the dorsal site, ventrally cream-coloured; labial palpi outside brown, inside cream-coloured; thorax cream-coloured, tegulae brown; fore- and middlelegs outside brown with cream-coloured rings on apical ends of segments, inside unicolorous cream-coloured, hindlegs cream-coloured, without brown; forewing cream-coloured, with brown pattern: brown are the basal area, two stripes at 1/2 and 2/3, and a patch before apex; fringe cream-coloured; hindwing light cream-coloured.

Male genitalia (Figs 15-16). Uncus rounded, tegumen narrow, vinculum broad, apically bent into two rounded tips, basally with two short rounded processi; valva with long transtilla and broad basal part, costal part broad apically somewhat enlarged, with blunt tip, ventral part folded, with a rounded cloth-shaped appendix; anellus with two very long arms, basally narrow, distally somewhat broader, from second half of length with numerous pointed bristles, closely connected with phallus.

Female genitalia. Unknown.

Life history: Unknown.

Etymology: The name refers to the similarity in the shape of genitalia with *Infurcitinea italica* (Amsel, 1954).

DOI: 10.21248/contrib.entomol.59.2.489-512

Remarks:

The new species belongs to group of species with anellus with two long bristled arms (*media* (Walsingham, 1907), *italica* (Amsel, 1954), *cyprica* Petersen & Gaedike, 1985). The shape of valva is quite different in *media* and *cyprica*, valva of *italica* differs by having an apically narrower costal arm, additionally the arms of anellus are bifurcate.

Infurcitinea incertula (Meyrick, 1928)

Morocco: 1 ♀, Taroudanut, 21.v.1986, leg. Curletti, Coll. Baldizzone: **First record other than type series.**

Stenoptinea cyaneimarmorella (Millière, 1854)

Tunisia: 1 ♂, Prov. Nabeul, Umg. Soliman, Borj-Cedria, 5.x.2007, leg. B. Schacht, Coll. Stübner: **New country record.**

Cephimallota crassiflavella Bruand, 1851

Algeria: 1 ♂, 1 ♀, Alger, Aout 1907; MNHN; 1 ♂, Algérie, St. Charles, A. Théry; MNHN: **New record for North Africa.**

Crassicornella agenjoi (Petersen, 1957)

Mauretania: 2 ♂, Mauretania, 1887, leg. Staudinger; ISZP. **New country record.**

Crassicornella zernyi (Petersen, 1957)

Catabola atlantis Zagulajev, 1975: 291, **syn. nov.**

Morocco: 4 ♂, 1 ♀, Prov. Agadir, Tarhazuote, 10. - 19.iv.1990, leg. Bassi/Olmi/Scaramozzino, Coll. Bassi.

The material allows the first description of the female genitalia (Figs 17-18):

Posterior apophyses near the papillae analis with bristled bulge, characteristic for the tribe, the two branches of the anterior apophyses widened, bristled, area around ostium band-shaped; ductus bursae with shell-shaped sclerotization, in the middle with hanging cone-shaped sclerotization. This is the third species in the genus, of which females are now known.

The comparison of the description and drawing of male genitalia of *Catabola atlantis*, described by Zagulajev (1975) from "Marokko, Gr. Atlas, Tachdirt, 2200-2900 m, 11.-19. VII. [19]33, leg. Zerny" [slide 11045], Coll. ZIN, shows unequivocally that these species are identical. *Catabola atlantis* Zagulajev, 1975 is accordingly a new synonym of *Crassicornella zernyi* (Petersen, 1957).

Reisserita bettagi sp. n.

Material:

Holotype, ♂ "Marokko, Moyen Atlas Ifrane Umgeb. 1600 m, 11. - 22.06.1996, leg. E. Bettag;" "Gen. präp. [genitalia slide] Gaedike NR.: 5768;" "Holotypus ♂, *Reisserita bettagi* sp. n. det. R. Gaedike 2008;" Coll. Bettag.

DOI: 10.21248/contrib.entomol.59.2.489-512

Description (Fig. 3):

Wingspan 12 mm; Head brush, mainly rubbed, light brown, scapus outside dark brown, inside light brown, flagellum ringed; thorax and forewing unicolourous light brown, without any pattern, hindwing dark grey.

Male genitalia (Figs 19-22). Uncus bilobate, with blunt tips, gnathos arms stout, basally broad, the last third curved, with pointed tip; vinculum broad, saccus with rounded tip, nearly triangular; valva with long, more strongly sclerotized transtilla, basally rounded, costal edge convex, from the last third directed ventrally, with rounded tip, ventral edge concave; phallus as long as the whole genitalia, narrow, with two hook-shaped cornuti.

Female genitalia. Unknown.

Life history: Unknown.

Etymology: Named in honour of the collector, Mr. Erich Bettag.

Remarks:

There is a small similarity with *R. zernyi* Petersen, 1957 in the shape of the valva with convex costal edge and concave ventral edge, but the shape of uncus and the phallus with only two cornuti clearly differentiates the new species.

Reisserita stengeli sp. n.

Material:

Holotype, ♂, "♂"; "33°24' N 05°10' E Maroc - Moyen Atlas, Foret des Cedres, 1700 m, 8.vii.1994, leg. Stengel"; "[genitalia slide G. Derra] 6302"; "Holotypus ♂, *Reisserita stengeli* sp. n. det. R. Gaedike 2009;" Coll. Derra.

Description (Fig. 4):

Wingspan 16 mm; head yellowish clay-coloured, outside of labial palpi and antenna somewhat darker; thorax the same colouration, base of tegulae somewhat darker; forewing also clay-coloured, with scattered darker scales, costa somewhat darker, hindwing light grey.

Male genitalia (Figs 23-24). Uncus incised in the middle, gnathos arms long, nearly circularly bent, with pointed tip; saccus very long, narrow, valva nearly as long as saccus, nearly parallel, from base to rounded tip valve becomes narrower, ventral edge convex; phallus longer than saccus, with a row of appr. 10 short thorn-like cornuti.

Female genitalia. Unknown.

Life history: Unknown.

Etymology: Named in honour of the collector, Mr. Stengel.

Remarks:

Superficially similar to other members of the genus, but structure of genitalia shows distinct differences. The size of valvae is similar to *chalcopterella*, but the very long saccus, the circularly bent gnathos arms, and presence of only one row of cornuti are clear differences.

DOI: 10.21248/contrib.entomol.59.2.489-512

***Reisserita chalcopterella* (Zerny, 1935)**

Morocco:

1 ♂, H. Atlas, Oukaimeden, 2650 m, 12.viii.1997, lux, leg. et Coll. Bettag: **First record other than the type.**

Examination of this specimen resulted in a more detailed study of the variability in the genitalia. Figures 25-27 shows the various shapes of valvae, especially the size of the small tooth on the ventral edge.

***Reisserita luteopterella* Petersen, 1957**

Morocco: 1 ♂, Arbaa Sahel, 29°36'46" 09°54'20" 14. 5. 2005, leg. et Coll. Werno: **First record other than the typical series.**

***Reisserita karsholti* sp. n.**

Material:

Holotype, ♂ "Morocco, 25 km S Essaouira Sidi Kaould, 100 m, 28.iii.2005 O. Karsholt"; "Coll. ZMUC Copenhagen Denmark"; "Gen. präp. [genitalia slide] Gaedike NR: 6181"; "Holotypus ♂ *Reisserita karsholti* sp. n. det. R. Gaedike 2008"; ZMUC.

Description (Fig. 5):

Wingspan 15 mm; head brush clay-coloured, antenna dark grey, labial palp light clay-coloured, second segment with numerous long dark brown bristles; thorax and forewing clay-coloured, without any pattern; hindwing grey.

Male genitalia (Figs 28-31). Uncus broad at basis, proximally with V-shaped incision, two pointed tips; gnathos arms strong, with clearly developed knee-shaped processus ventrally, dorsally at 1/3 bent, with pointed tip; tegumen broad, edged; vinculum large, triangular, on each side at 1/2 with a small hook-shaped processus (insertion of transtilla); valva nearly parallel, dorsal edge straight, ventral edge at 1/2 convex, with rounded tip, transtilla nearly as long as valva; phallus longer than uncus+tegumen, thin, with two small cornuti.

Female genitalia. Unknown.

Life history: Unknown.

Etymology: Named in honour to the collector, Ole Karsholt.

Remarks:

The new species is superficially similar to *zernyi* Petersen, 1957, but the shape of genitalia is clearly different (incision on uncus V-shaped, shape of gnathos arms, shape of valva and the long transtilla, and the hook-shaped processi on vinculum).

***Anomalotinea paepalella* (Walsingham, 1907)**

Morocco: 3 ♂, Maroc / Haut Atlas, Nord-Sahara, 1100 m, 40 km w. Ar-Rachidia, 27.iii.1995, leg. Stengel; Coll. Derra; DEI. **New country record.**

DOI: 10.21248/contrib.entomol.59.2.489-512

Anomalotinea wernoi **sp. n.**

Material:

Holotype, ♂ "Marokko ED Tinn Paßhöhe, Straßenrand [roadside], 29°43'35" – 09°16'33", Lichtfang 16.05.2005, leg. Andreas Werno;" "Gen. präp. [genitalia slide] Gaedike NR.: 5355;" "Holotypus ♂, *Anomalotinea wernoi* sp. n. det. R. Gaedike 2008;" Coll. Werno.

Paratypes: 2 ♂, same location, one specimen with genitalia slide No. 5344; "Paratypus ♂, *Anomalotinea wernoi* sp. n. det. R. Gaedike 2008;" Coll. Werno; DEI; 1 ♂, same location, but 17.05.2006; "Paratypus ♂, *Anomalotinea wernoi* sp. n. det. R. Gaedike 2008;" Coll. Werno.

Description (Fig. 6):

Wingspan 13 mm; head brush clay-coloured, antenna dark grey, labial palp outside dark grey, inside cream-coloured, second segment with numerous dark bristles; fore- and midlegs grey-brown, overlaid with lighter scales, tips of the tarsal segments light cream-coloured, hindlegs clearly lighter; thorax and forewing clay-coloured; hindwing grey-brown.

Male genitalia (Figs 32-33). Uncus characteristic for the genus with pointed tip apically in the middle; gnathos arms strong, hook-shaped, the last third more curved, with pointed tip; vinculum broad, saccus long; valva with long transtilla, divided into a ventral and dorsal part, ventral part shorter than dorsal part, broader, blunt pointed, dorsal part narrower and longer than ventral part, with rounded tip; phallus as long as uncus+vinculum+saccus, wsith two cornuti, one of them hook-shaped, the other more straight.

Female genitalia. Unknown.

Life history: Unknown.

Etymology: Named in honour of Andreas Werno, the collector.

Remarks:

The new species is superficially similar to some other members of the genus. The shape of the genitalia, especially the valva, divided into two parts is similar to *derrai*. Differences to *derrai* are the prolonged dorsal part of valva, with rounded tip and the broad, blunt pointed ventral part. Other differences are the stronger, more compact gnathos arms and phallus with one straight and only one hook-shaped cornutus.

Anomalotinea derrai **sp. n.**

Material:

Holotypus ♂, "♂"; "[genitalia slide G. Derra] 5473"; "Marokko, Mittlerer Atlas, Mischliften, 2000 m, 29.x.1993, leg. Stengel"; "Holotypus ♂ *Anomalotinea derrai* sp. n. det. R. Gaedike 2009"; Coll. Derra.

Description (Fig. 7):

Wingspan 14 mm; head creamy, scales proximally lighter than apically, labial palpi outside brown-grey, inside nearly white, scapus creamy, mixed with darker scales, flagellum dark; thorax sand-coloured with light pink shimmer; forewing with the same colouration; hindwing grey.

Male genitalia (Figs 34-36). Uncus characteristic for the genus with pointed tip apically in the middle; gnathos arms after 1/2 hook-shaped, subapically with very small thorns; saccus long,

DOI: 10.21248/contrib.entomol.59.2.489-512

broad, bluntly pointed; valva with long transtilla, divided into a nearly rounded ventral and a longer dorsal part, edged on the basal side, the dorsal part apically somewhat broader than base, rounded, with a short nose-shaped tip ventrally; phallus somewhat longer as saccus, narrow, with two hook-shaped cornuti.

Female genitalia. Unknown.

Life history: Unknown.

Etymology: Named in honour of Georg Derra, who made it possible for me to study many interesting specimens from Morocco.

Remarks:

The light pink shimmer distuingishes superficially the new species from other members of the genus. The genitalia are similar to *wernoi*, but clear differences are the shape of valva with the rounded ventral part and the nose-shaped point of dorsal part, together with the thorned apical part of gnathos arms.

Anomalotinea cubiculella romei (Turati, 1930)

Tunisia: 1 ♂, 25 km S Feriana, Mejen Bel Abbès, 11.iii.1986, Zool. Mus. Copenhagen Exp.; ZMUC: **First record other than type.**

Trichophaga tapetzella (Linnaeus, 1758)

Algeria: 1 ♂, Prov. D'Oran, Sidi-bel-Abbès, 1919, leg. Rotran;

Tunisia: 1 ♂, 15 km E Tabarka, 20. - 25.iii.1986, Exp. Mus. Copenhagen, ZMUC: **New country records.**

Elatobia fuliginosella (Lienig & Zeller, 1846)

Morocco: 1 ♂, dint. Khentira, 1.v.1990, leg. Bassi, Olmi & Scaramozzino, Coll. Bassi; 1 ♀, Rabat, Forêt de Mamora, 25. - 26.iv.1989, Exp. Mus. Copenhagen, ZMUC;

Tunisia: 1 ♀, Ain Draham area, 5. - 18.v.1988, Zool. Mus. Copenhagen Exp., ZMUC; 1 ♀, Tabarka, 25.vii. - 3.viii.1995, leg. W. Mey; ZMHB: **New country records.**

Proterospastis autochthones (Walsingham, 1907)

Tunisia: 1 ♂, Tunisie, C. Dumont; MNHN: **New country record.**

Amphixystis maroccana sp. n.

Material:

Holotype, ♂ "Morocco, 8 km S Sidi Ifni, 20.iii.2005, 50 m, O. Karsholt"; "Coll. ZMUC Copenhagen Denmark"; "Gen. präp. [genitalia slide] Gaedike NR: 6180"; "Holotypus ♂ *Amphixystis maroccana* sp. n. det. R. Gaedike 2008"; ZMUC.

DOI: 10.21248/contrib.entomol.59.2.489-512

Paratypes: 1 ♂ with same dates; DEI; 1 ♂ "17.05.2005, MA [Morocco] - Souss-Massa-Drâa Anezi, 10 km W, M004-9,45897 / 29.66919, 800 m, lum. act. leg. Meyer M."; "Gen. präp. [genitalia slide] Gaedike NR: 5579"; "Paratypus ♂ *Amphixystis maroccana* sp. n. det. R. Gaedike 2008"; Coll. Meyer; 2 ♂, "Marokko, Imlil, Straßenrand [roadside] – 31°09'45" - 07°55'49", Lichtfang [lux], 19.05.2005, leg. Andreas Werno (one specimen with genitalia slide Gaedike NR: 6532)"; "Paratypus ♂ *Amphixystis maroccana* sp. n. det. R. Gaedike 2009"; Coll. Werno; DEI; 2 ♂, "Marokko, Westlich Anezi - Straßenrand [roadside] – 29°40'09" – 09°27'32" Lichtfang [lux], 17.05.2005, leg. Andreas Werno"; "Paratypus ♂ *Amphixystis maroccana* sp. n. det. R. Gaedike 2009"; Coll. Werno; DEI; 1 ♀, with same dates, "Gen. präp. [genitalia slide] Gaedike NR: 6531"; Coll. Werno.

Description (Fig. 8):

Wingspan 13 mm; head brush bi-coloured: from insertion of antennae to palpi dark grey, the other part light cream-coloured; antenna dark grey, underside light cream-coloured; thorax also cream-coloured , tegulae dark brown, nearly black; forewing also bi-coloured: dorsum from basis to apex (with fringe) cream-coloured, the other part of wing dark brown, nearly black, the border uneven, but distinct; hindwing grey.

Male genitalia (Figs 37-39). Uncus with two long slightly curved, more strongly sclerotized socii, with pointed tip, apical edge more strongly sclerotized, tegumen broad, vinculum narrow, saccus long and thin; valva as long as uncus+tegumen, with short transtilla, costal edge concave, ventral edge convex, parallel, apically rounded, ventral edge before 1/2 with a more strongly sclerotized tooth; phallus nearly as long as valva, narrow, laterally before apex with some hook-shaped sclerotizations.

Female genitalia (Figs 40-41). Anterior apophyses forked, ventral branch connected in the middle with antrum; ductus bursae behind ostium enlarged for a short distance, somewhat more strongly sclerotized, first half of ductus with some very small thorns, in second half one area with larger thorns, before corpus bursae an area with many very small thorns.

Life history: Unknown.

Etymology: Named after the country in which the new species was collected.

Remarks:

The new species is the third member of the genus in the Palaearctic. Superficially it is similar to all other members of the genus, but the shape of phallus differentiates it from *islamella* (Turati, 1927) (recorded from Israel and Libya), from *undosa* (Walsingham, 1908) (recorded from Canary islands) and from the other known African species. In female genitalia the enlarged first part of ductus bursae distuinguishes the new species from *islamella* and *undosa*.

DOI: 10.21248/contrib.entomol.59.2.489-512

Checklist of tineid moths, at present known from Mauretania, Morocco, Algeria and Tunisia

Taxon	Maur.	Mor.	Alg.	Tun.
Hapsifera luridella Zeller, 1847 [= *pustulatella* Lucas, 1942; = *eburnea* Butler, 1881; = *palaestinensis* Rebel, 1901; = *badiaria* Turati, 1934; = *albicapilla* Turati, 1926; = *cyrenaicensis* Turati, 1924; = *torulosa* Turati, 1919; = *baliopsamma* Meyrick, 1921; = *kerbelella* Amsel, 1949; = *luridella ssp. susaella* Amsel, 1959; = *asiatica* Amsel, 1949]	-	-	-	x
Hapsifera multiguttella (Ragonot, 1895) [= *jerichoella* Amsel, 1935; = *maculata* Walsingham, 1907]	-	x	x	x
Rhodobates unicolor (Staudinger, 1870) [= *tibulella* Rebel, 1936]	-	-	-	x
Rhodobates friedeli Petersen, 1987	-	x	-	-
Rhodobates algiricellus (Rebel, 1901) [= *hieratica* Turati, 1924; = *chneouri* Lucas, 1942; = *mauretanicus* Petersen, 1958]	x	x	x	x
Morophaga morella (Duponchel, 1838) [= *morella f. fungicolella* Dumont, 1930]	-	x	x	x
Morophaga choragella (Denis & Schiffermüller, 1775) [= *boleti* Fabricius, 1777; = *fungella* Thunberg, 1794; = *mediella* Hübner, 1796]	-	x	-	x
***Nemapogon algerica* sp. n.**	-	-	x	-
Nemapogon inconditella (Lucas, 1956) [= *buckwelli* Lucas, 1956; = *heydeni* Petersen, 1957; = *thomasi* Capuse, 1975; = *hungaricus* Capuse, 1968, nec Gozmány, 1960]	-	x	-	-
Nemapogon palmella (Chrétien, 1908) [= *oueddarellus* Amsel, 1952]	-	x	-	-
Nemapogon sardica Gaedike, 1983	-	x	x	x
Nemapogon picarella (Clerck, 1759) [= *rigaella* Sodoffsky, 1830; = *riganella* Zeller, 1839; = *acerella* Treitschke, 1832]	-	x	-	-
Nemapogon granella (Linnaeus, 1758) [= *fenestrella* Scopoli, 1763; = *domesticella* Scopoli, 1763; = *nebulosella* Geoffroy, 1785; = *tesserella* Fabricius, 1794; = *costotristrigella* Chambers, 1873; = *fuscomaculella* Chambers, 1873; = *marmorella* Chambers, 1875; = *mancuniella* Hodgkinson, 1880; = *nigroatomella* Dietz, 1905; = *f. nigra* Dufrane, 1955; = *fuscicomella* Wörz, 1958]	-	x	x	-
Nemapogon variatella (Clemens, 1859) [= *personella* Pierce & Metcalfe, 1934; = *secalella* Zacher, 1938; = *infimella* Corbet, 1943, nec Herrich-Schäffer, 1851]	-	x	x	-
Neurothaumasia ragusaella (Wocke, 1889) [= *roeweri* Amsel, 1939; = *africana* Gozmány, 1960; = *bifasciatella* Turati, 1924; = *purella* Chrétien, 1907]	-	x	-	x
Neurothaumasia ankerella (Mann, 1867) [= *burdigalensis* LeMarchand, 1934; = *tirsella* Amsel, 1952; = *geratocoma* Walsingham, 1907; = *ankerella var. nigratella* Chrétien, 1917]	-	x	x	-
Tenaga nigripunctella (Haworth, 1828) [= *pomiliella* Clemens, 1862; = *moeniella* Rössler, 1877; = *linobola* Meyrick, 1893; = *sesquitertia* Meyrick, 1909]	-	x	-	-
Eudarcia nigraella (Mariani, 1937) [= *nigrella* Hartig, 1939]	-	-	-	x
Infurcitinea nigropluviella (Walsingham, 1907) [= *maraschensis* Petersen, 1968]	-	-	x	x

DOI: 10.21248/contrib.entomol.59.2.489-512

Taxon	Maur.	Mor.	Alg.	Tun.
Infurcitinea maura Petersen, 1962	-	x	-	-
Infurcitinea marcunella (Rebel, 1901)	x	x	x	-
Infurcitinea lambessella Petersen, 1958	-	-	x	x
Infurcitinea frustigerella (Walsingham, 1907) [= *absconditella* Chrétien, 1915]	-	x	x	x
***Infurcitinea italicoides* sp. n.**	-	x	-	-
Infurcitinea media (Walsingham, 1907) [= *intricatella* Chrétien, 1915]	-	-	x	x
Infurcitinea atrifasciella (Staudinger, 1870) [= *diasi* Amsel, 1957; = *zernyi* Zagulajev, 1974]	-	x	-	x
Infurcitinea maroccana Petersen & Gaedike, 1979	-	x	-	-
Infurcitinea senecai Gaedike, 1987	-	-	-	x
Infurcitinea incertula (Meyrick, 1928)	-	x	-	-
Stenoptinea cyaneimarmorella (Millière, 1854) [= *angustipennis* Herrich-Schäffer, 1854; = *angustipennis* Staudinger, 1871]	-	-	x	x
Cephimallota crassiflavella Bruand, 1851 [= *simplicella* Zeller, 1852; = *simplicella* Herrich - Schäffer, 1854]	-	-	x	-
Pachyarthra mediterranea (Baker, 1894) [= *serotinella* Chrétien, 1915; = *pallidella* Lucas, 1933; = *variegata* Lucas, 1950]	-	x	x	x
Pachyarthra lividella (Chrétien, 1915)	-	x	x	x
Pachyarthra ochroplicella (Chrétien, 1915) [= *pentatma* Meyrick, 1937; = *intermedia* Turati, 1930]	-	x	x	x
Myrmecozela diacona Walsingham, 1907	-	x	x	x
Myrmecozela ataxella (Chrétien, 1905) [= *chneourella* Lucas, 1950]	-	x	x	x
Myrmecozela lambessella s. str. Rebel, 1901 [= *lambesella* Rebel, 1901, lapsus calami]	x	-	x	x
Edosa lardatella (Lederer, 1858)	-	x	x	x
Perissomastix (*Perissomastix*) *biskraella* (Rebel, 1901) [= *intermediella* Turati, 1926, nec Petersen, 1961; = *dernaella* Turati, 1926; = *abscondita* Gozmany, 1960]	x	x	x	x
Crassicornella agenjoi (Petersen, 1957) [= *crassicornella* Agenjo, 1952, nec Zeller, 1847; = *incerta* Gozmány, 1960]	x	x	x	x
Crassicornella hirundinea (Meyrick, 1928), nec Zerny, 1935	-	x	-	-
Crassicornella zernyi (Petersen, 1957) [= *hirundinea* Zerny, 1935, nec Meyrick, 1928; = *perplexa* Gozmany, 1960; = *atlantis* Zagulajev, 1975, **syn. nov.**]	-	x	-	-
Crassicornella bifurcatella (Petersen, 1957)	-	-	-	x
Ateliotum petrinellum s. str. (Herrich-Schäffer, 1854) [= *turatiella* Millière, 1885]	-	-	-	x
Cephimallota vittatella (Chrétien, 1915)	-	-	-	x
Cephimallota tunesiella (Zagulajev, 1966)	-	x	x	x
Cephimallota repetekiella (Zagulajev, 1971) [= *striatella* Lucas, 1942, nec Denis & Schiffermüller, 1775; = *tunusensis* Kocak, 1981]	-	-	x	-
Ceratuncus maroccanellus (Amsel, 1951)	-	x	-	-
***Reisserita bettagi* sp. n.**	-	x	-	-
***Reisserita stengeli* sp. n.**	-	x	-	-

DOI: 10.21248/contrib.entomol.59.2.489-512

Taxon	Maur.	Mor.	Alg.	Tun.
Reisserita chalcopterella (Zerny, 1935)	-	x	-	-
Reisserita luteopterella Petersen, 1957	-	x	-	-
***Reisserita karsholti* sp. n.**	-	x	-	-
Reisserita parva Petersen & Gaedike, 1979	-	x	-	-
Reisserita oranella Petersen, 1957	-	-	x	-
Reisserita pseudoranella Petersen & Gaedike, 1979	-	x	-	-
Reisserita panormitanella (Mann, 1859)	-	-	x	x
Reisserita mauritanica (Baker, 1885) [= *melitensis* Amsel, 1951]	-	-	x	x
Anomalotinea liguriella (Millière, 1879) [= *inquinatella* Zeller, 1852, nec Denis & Schiffermüller, 1775; = *severella* Zagulajev, 1956, nec Christoph, 1888; = *antipai* Zagulajev, 1972; = *christophi* Petersen, 1957]	-	-	x	x
Anomalotinea leucella (Turati, 1926) [= *strioligera* Turati, 1926; = *leucelloides* Amsel, 1935; = *balchanella* Zagulajev, 1956]	-	-	x	x
Anomalotinea paepalella (Walsingham, 1907) [= *nigropilella* Chrétien, 1915]	-	x	x	x
Anomalotinea fulvescentella (Lucas, 1956) [= *maroccana* Petersen & Gaedike, 1979]	-	x	-	-
Anomalotinea chellalalis (Rebel, 1901) [= *cuencella* Caradja, 1920]	-	-	x	-
***Anomalotinea wernoi* sp. n.**	-	x	-	-
***Anomalotinea derrai* sp. n.**	-	x	-	-
Anomalotinea cubiculella algiricella (Rebel, 1901) [= *occidentalis* Zagulajev, 1972]	x	-	x	x
Anomalotinea cubiculella romei (Turati, 1930) [= *eremica* Amsel, 1935]	-	-	-	x
Trichophaga tapetzella (Linnaeus, 1758) [= *palaestrica* Butler, 1877]	-	-	x	x
Trichophaga bipartitella (Ragonot, 1892) [= *amina* Meyrick, 1925; = *desertella* Mabille, 1907]	x	x	x	x
Trichophaga robinsoni Gaedike & Karsholt, 2001 [= *abruptella* Wollaston, 1858, nec Thunberg, 1794]	-	x	-	-
Ceratophaga infuscatella (Joannis, 1897)	x	x	x	x
Elatobia fuliginosella (Lienig & Zeller, 1846) [= *martinella* Walker, 1863; = *carbonella* Dietz, 1905; = *kenteella* Staudinger, 1892; = *severella* Christoph, 1888]	-	x	-	x
Xerantica tephroclysta Meyrick, 1930 [= *trichophagoides* Zerny, 1935]	-	x	-	-
Tineola bisselliella (Hummel, 1823) [= *flavifrontella* Thunberg, 1794; = *crinella* Sodoffsky, 1830; = *destructor* Stephens, 1834; = *lanariella* Clemens, 1859; = *furciferella* Zagulajev, 1954; = *anaphecola* Gozmány, 1967]	-	x	-	x
Tinea murariella Staudinger, 1859 [= *bipunctella* Ragonot, 1874]	-	x	x	x
Tinea messalina Robinson, 1979	-	-	x	-
Tinea translucens Meyrick, 1917 [= *metonella* Pierce & Metcalfe, 1934; = *leonhardi* Petersen, 1957; = *margaritacea* Gozmány, 1968; = *fortificata* Gozmány, 1968]	-	-	-	x

DOI: 10.21248/contrib.entomol.59.2.489-512

Taxon	Maur.	Mor.	Alg.	Tun.
Tinea dubiella Stainton, 1859 [= *turicensis* Müller-Rutz, 1920; = *bispinella* Zagulajev, 1960; = *tenerifi* Zagulajev, 1966]	-	x	x	-
Tinea flavescentella Haworth, 1828 [= *tristigmatella* Costa, 1836]	-	-	x	-
Tinea basifasciella Ragonot, 1895 [= *punctigera* Walsingham, 1907; = *nitentella* Chrétien, 1908; = *punctigera palaestinella* Amsel, 1955; = *exquisita* Gozmány, 1960]	-	x	x	x
Tinea trinotella Thunberg, 1794 [= *ganomella* Treitschke, 1833; = *lapella* Hübner, 1796-99, nec Denis & Schiffermüller, 1775; = *tripunctella* Donovan, 1806, nec Denis & Schiffermüller, 1775; = *lapella* Haworth, 1828, nec Linnaeus, 1758]	-	-	x	-
Niditinea fuscella (Linnaeus, 1758) [= *spretella* Denis & Schiffermüller, 1775; *crinitella* Schrank, 1802; = *fuscipunctella* Haworth, 1828; = *nubilipennella* Clemens, 1859; = *abligatella* Walker, 1863; = *frigidella* Packard, 1867; = *griseella* Chambers, 1873; = *flavescentella* Stainton, 1851, nec Haworth, 1828; = *eurinella* Zagulajev, 1952; = *distans* Gozmány, 1959]	-	x	x	x
Niditinea tugurialis (Meyrick, 1932) [= *unipunctella* Zagulajev, 1960; = *baryspilas* Meyrick, 1937]	-	-	-	x
Proterospastis merdella (Zeller, 1852) [= *siccanella* Chrétien, 1915; = *palaestinella* Amsel, 1935; = *atriensis* Meyrick, 1925]	-	-	x	-
Proterospastis autochthones (Walsingham, 1907)	-	-	x	x
Proterospastis ellipticella (Chrétien, 1915)	-	-	-	x
Proterospastis tripolitella (Rebel, 1908)	-	-	x	x
Monopis laevigella (Denis & Schiffermüller, 1775) [= *rusticella* Hübner, 1810-13, nec Hübner, 1796; = *vestianella* Stephens, 1835]	-	-	-	x
Monopis crocicapitella (Clemens, 1859) [= *hyalinella* Staudinger, 1870; = *lombardica* Hering, 1889; = *ferruginella* Dyar, 1902, nec Hübner, 1813; = *cecconii* Turati, 1919; = *dobrogica* Georgescu, 1964]	-	x	-	-
Monopis imella (Hübner, 1813) [= *nitidella* Zagulajev, 1960]	-	x	x	x
Monopis nigricantella (Millière, 1872)	-	x	-	x
***Amphixystis maroccana* sp. n.**	-	x	-	-

References

Robinson, G. S. 1980: The Himalayan Nemapogoninae (Lepidoptera: Tineidae), with a note on the female of *Nemapogon levantinus* Petersen. – Entomologist's Gazette **31**: 129-142, 11 Figs.

Zagulajev, A. K. 1975: Nastojaschtschije moli (Tineidae), Podsemejstvo Myrmecozelinae. – In: Fauna SSSR, N. S. 108. Nasekomyje, Tscheschujekrylyje. – Leningrad **4** (5): 1-428, 319 Figs.

Author's address:

Dr. Reinhard Gaedike
Florusstraße 5
53225 Bonn, Germany
e-mail: tinagma@msn.com

Subject editor:

Dr. M. Nuss

DOI: 10.21248/contrib.entomol.59.2.489-512

Fig. 1: *Nemapogon algerica* sp. n.

Fig. 2: *Infurcitinea italicoides* sp. n.

DOI: 10.21248/contrib.entomol.59.2.489-512

Fig. 3: *Reisserita bettagi* sp. n.

Fig. 4: *Reisserita stengeli* sp. n.

DOI: 10.21248/contrib.entomol.59.2.489-512

Fig. 5: *Reisserita karsholti* sp. n.

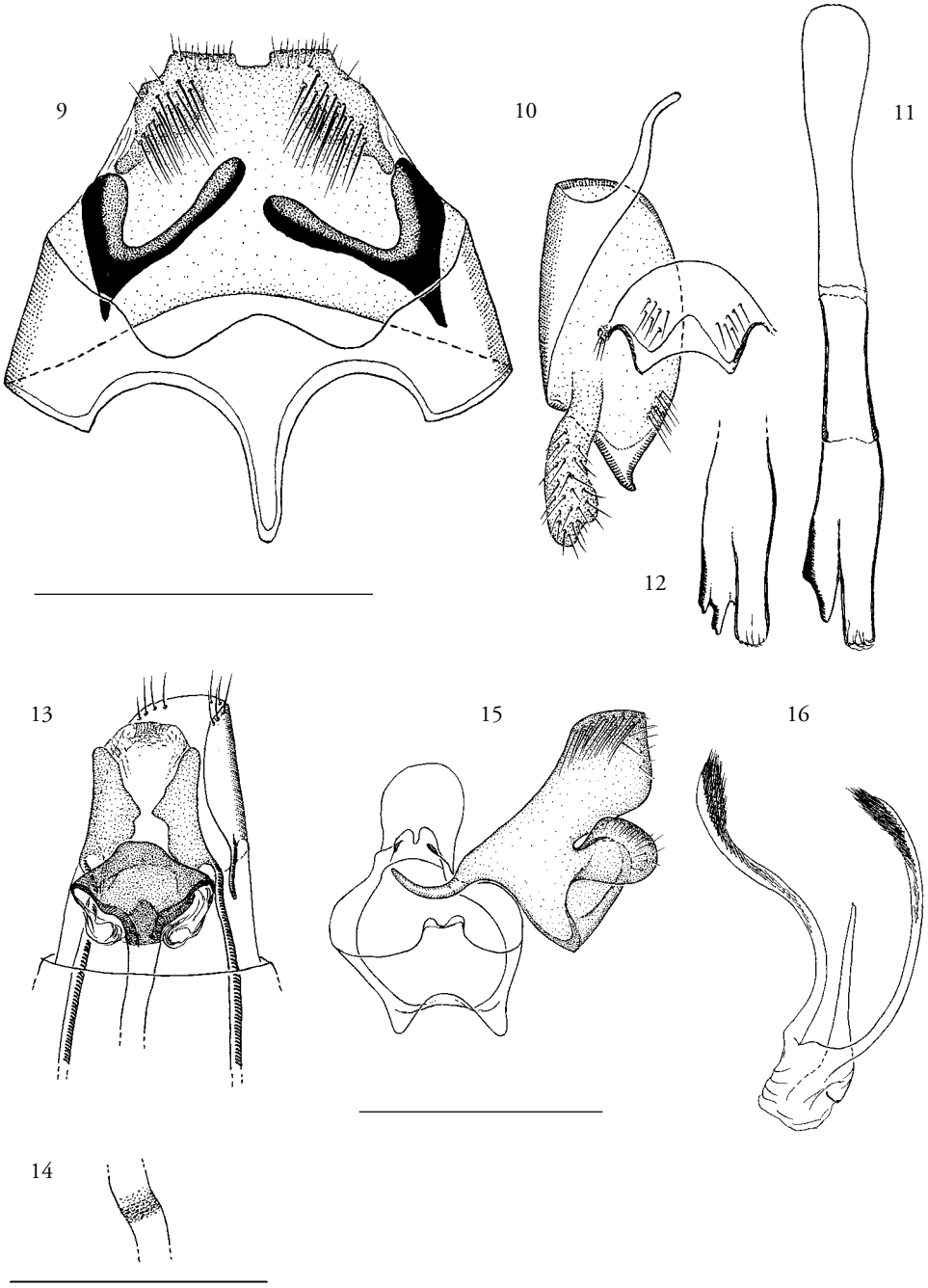
Fig. 6: *Anomalotinea wernoi* sp. n.

DOI: 10.21248/contrib.entomol.59.2.489-512

Fig. 7: *Anomalotinea derrai* sp. n.

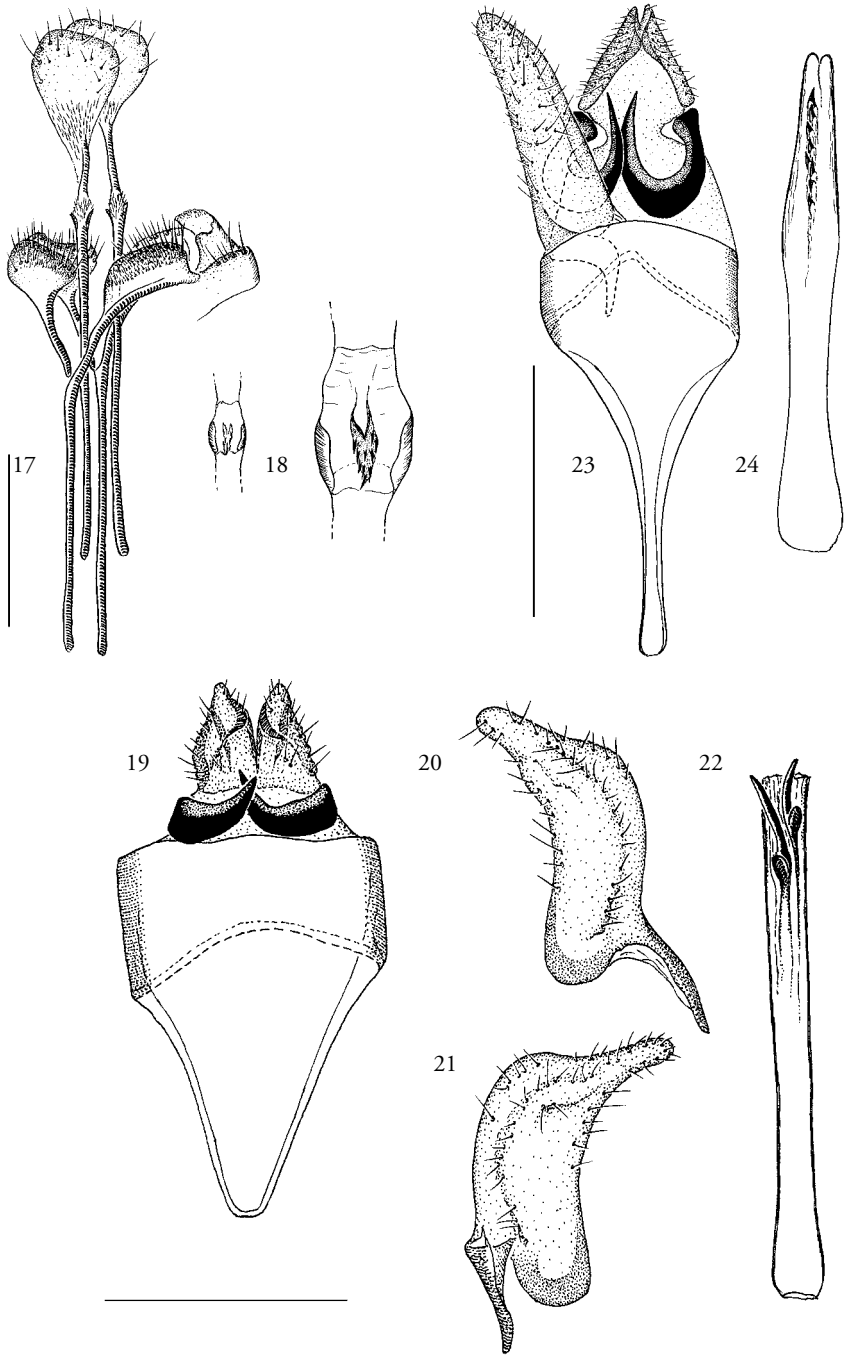
Fig. 8: *Amphixystis maroccana* sp. n.

DOI: 10.21248/contrib.entomol.59.2.489-512



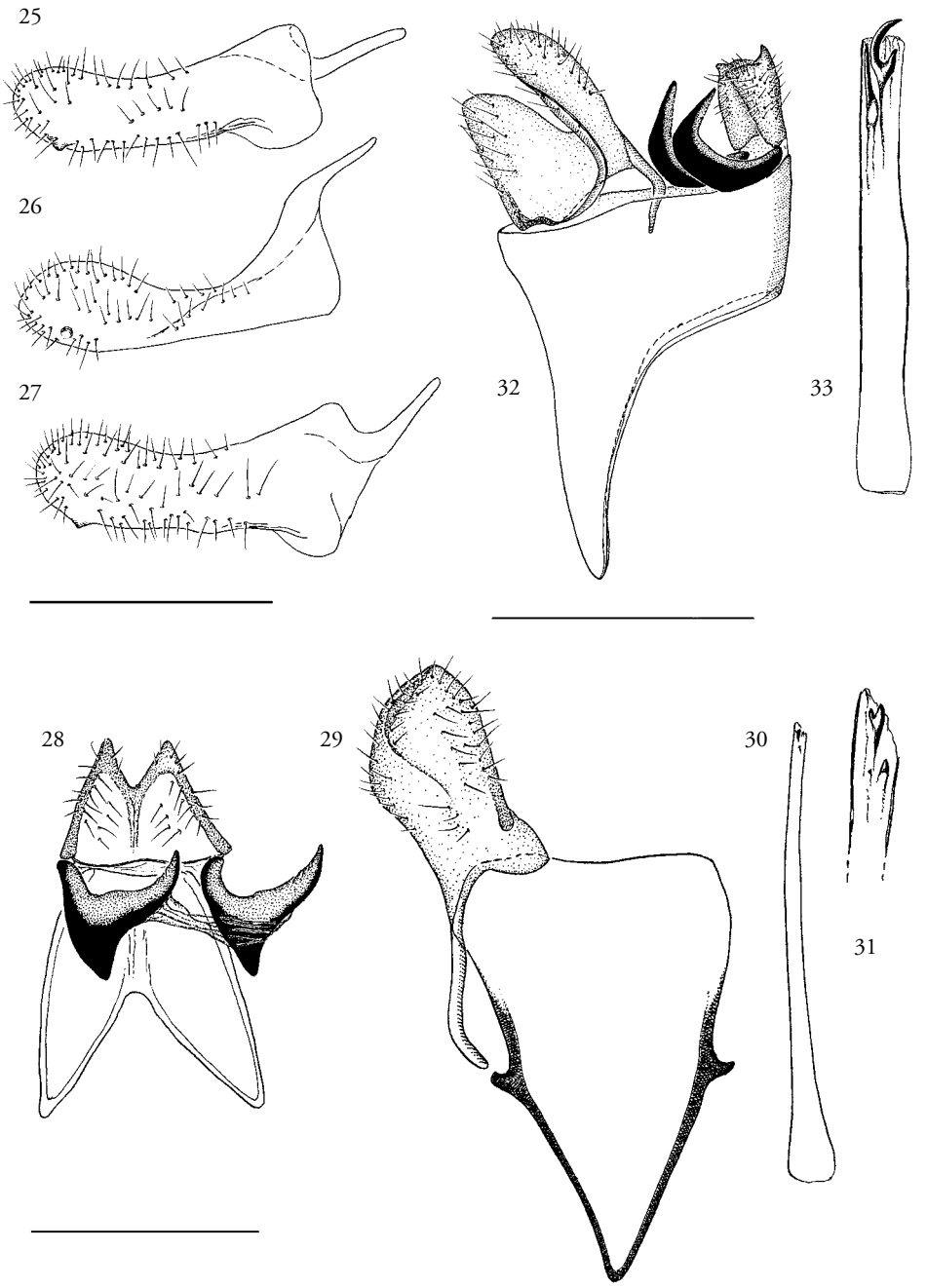
Figs 9-14: *Nemapogon algerica* ♂: (**9:** uncus-tegumen-saccus - **10:** valva and anellus - **11-12:** phallus with variability in the tooth-like processus), ♀: (**13:** VIII segment and ostium - **14:** scale-shaped sclerotizations in ductus bursae).
Figs 15-16: *Infurcitinea italicoides* ♂: (**15:** genitalia, one valva removed - **16:** phallus-anellus).

DOI: 10.21248/contrib.entomol.59.2.489-512



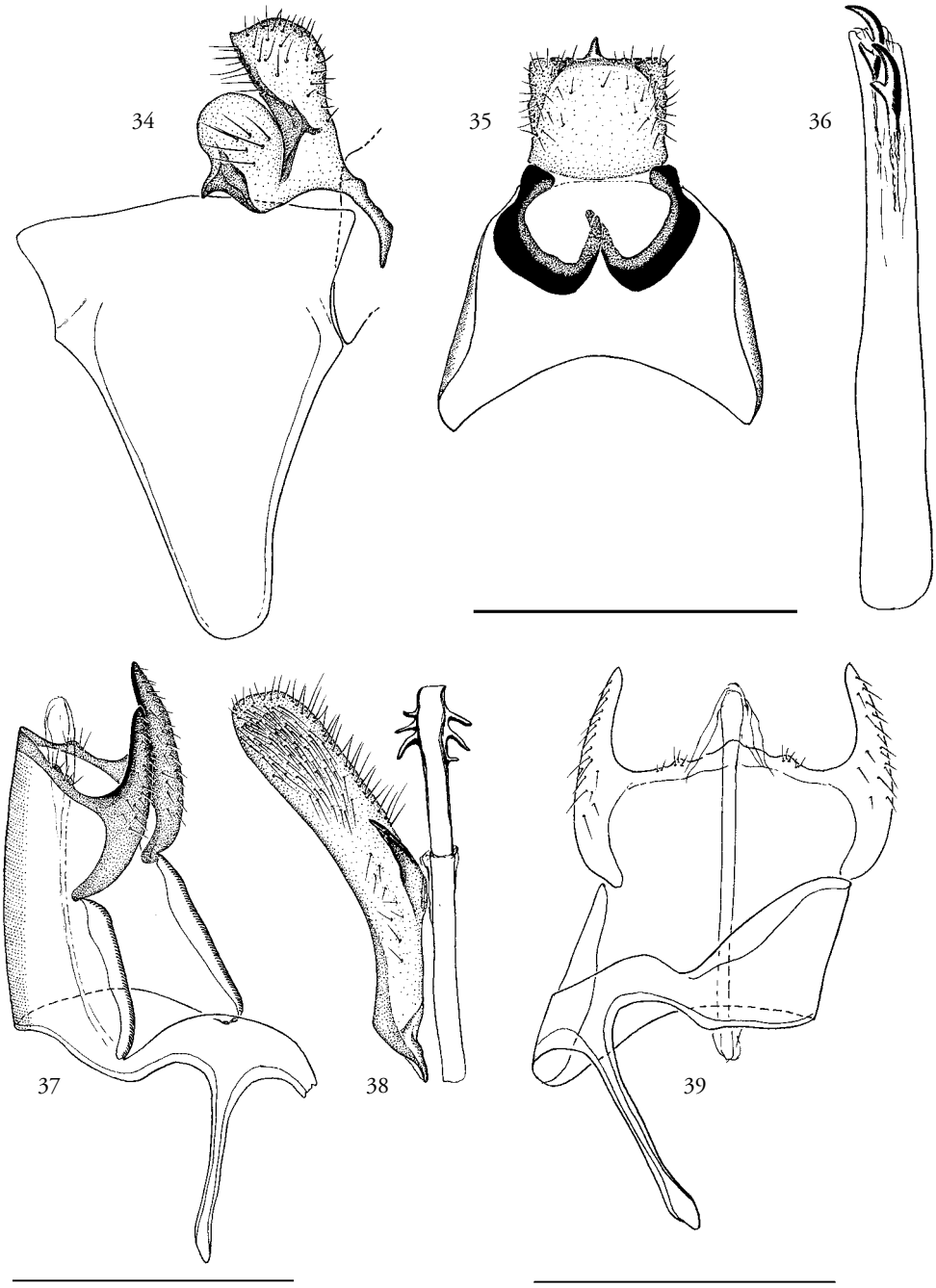
Figs 17-18: *Crassicornella zernyi* ♀: (**17:** anterior and posterior apophyses, ostium - **18:** sclerotization in ductus bursae, enlarged).
Figs 19-22: *Reisserita bettagi* ♂: (**19:** uncus-tegumen-complex - **20, 21:** valvae - **22:** phallus).
Figs 23-24: *Reisserita stengeli* ♂: (**23:** genitalia, one valve removed - **24:** phallus).

DOI: 10.21248/contrib.entomol.59.2.489-512



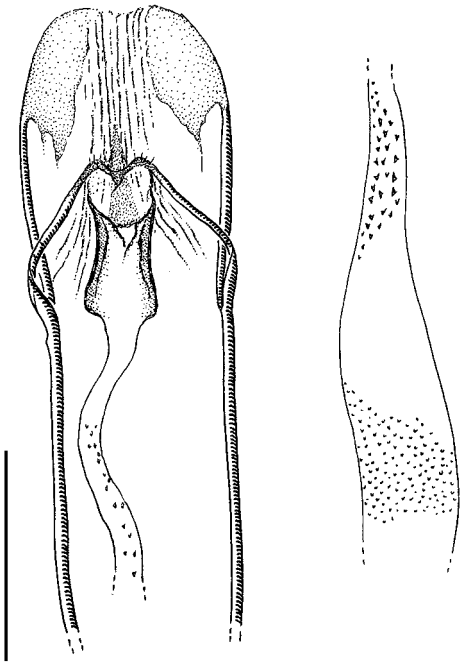
Figs 25-27: *Reisserita chalcopterella* ♂: (**25-27:** variability of valvae).
Figs 28-31: *Reisserita karsholti* ♂: (**28:** uncus-tegumen - **29:** saccus and valva - **30:** phallus - **31:** tip of phallus, enlarged).
Figs 32-33: *Anomalotinea wernoi* ♂: (**32:** genitalia, one valva removed - **33:** phallus).

DOI: 10.21248/contrib.entomol.59.2.489-512



Figs 34-36: *Anomalotinea derrai*, ♂: (**34:** Saccus and valva - **35:** uncus-tegumen - **36:** phallus).
Figs 37-39: *Amphixystis maroccana*, ♂: (**37:** uncus-tegumen-saccus - **38:** valva and phallus - **39:** uncus-tegumen-saccus, ventral view).

DOI: 10.21248/contrib.entomol.59.2.489-512



Figs 40-41: *Amphixystis maroccana*, ♂: (**40:** anterior apophyses with antrum. - **41:** last part of ductus bursae).

DOI: 10.21248/contrib.entomol.59.2.489-512