

# Additions to the fauna of Gelechiidae (Gelechiinae: Teleiodini and Gelechiini) of Europe

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**Summary.** Four new species of gelechiid moths, viz. *Recurvaria costimaculella* sp. n. (Italy), *Teleiodes albiluculella* sp. n. (Greece), *Teleiodes traugotti* sp. n. (Spain) and *Mirificarma minimella* sp. n. (Greece) are described. *Teleiodes gallica* Huemer, 1992 is considered as a new subjective synonym of *Teleiodes italica* Huemer, 1992. Furthermore *Schneidereria pistaciella* Weber, 1957 (Greece, Ukraine) is recorded for Europe, and a new combination, *Altenia mersinella* (Staudinger, 1879) comb. n., is given. Adults as well as genitalia structures of the species are figured.

**Zusammenfassung.** Vier neue Gelechiidenarten, nämlich *Recurvaria costimaculella* sp. n. (Italien), *Teleiodes albiluculella* sp. n. (Griechenland), *Teleiodes traugotti* sp. n. (Spanien) und *Mirificarma minimella* sp. n. (Griechenland) werden beschrieben. *Teleiodes gallica* Huemer, 1992, wird als neues subjektives Synonym von *Teleiodes italica* Huemer, 1992, behandelt. Weiters wird *Schneidereria pistaciella* Weber, 1957 (Griechenland, Ukraine) erstmals für Europa gemeldet und eine neue Kombination, *Altenia mersinella* (Staudinger, 1879) comb. n., eingeführt. Die Images sowie Genitalstrukturen der behandelten Arten werden abgebildet.

**Resumé.** Quatre nouvelles espèces de Gelechiidae, *Recurvaria costimaculella* sp. n. (Italie), *Teleiodes albiluculella* sp. n. (Grèce), *Teleiodes traugotti* sp. n. (Espagne) und *Mirificarma minimella* sp. n., sont décrites. *Teleiodes gallica* Huemer, 1992 est considéré comme étant un nouveau synonyme subjectif de *Teleiodes italica* Huemer, 1992. De plus, *Schneidereria pistaciella* Weber, 1957 (Grèce, Ukraine) est rapporté d'Europe et une nouvelle combinaison générique, à savoir *Altenia mersinella* (Staudinger, 1879) comb. nov., est introduite. Les adultes, ainsi que les armatures génitales des espèces traitées, sont illustrés.

**Key words.** Lepidoptera, Gelechiidae, Teleiodini, Gelechiini, Europe, new species, new synonymy, new combination.

## Introduction

The gelechiid fauna of the tribes Teleiodini and Gelechiini from Europe has been reviewed recently and a total of 151 species has been recorded (Huemer & Karsholt 1999). However, during the printing stage of this book and since its publication, additional species, some of them still undescribed, have been recognized in various private and institutional collections. To enable a safe identification of the above tribes in Europe we give diagnoses and figures of adults and genitalia of the additional species.

## Abbreviations of museums and private collections

AREN	coll. E. Arenberger, Vienna, Austria.
NM	Naturhistorisches Museum, Vienna, Austria.
SUTT	coll. R. Sutter, Bitterfeld, Germany.
TLMF	Tiroler Landesmuseum Ferdinandeum, Innsbruck, Austria.
ZMKU	Zoological Museum, Kiev, Ukraine.
ZMUC	Zoologisk Museum, University of Copenhagen, Denmark.
ZSM	Zoologische Staatssammlung, Munich, Germany.

## Systematic part

In order to facilitate comparison with the taxa dealt with by Huemer & Karsholt (1999) the same layout is used for both descriptions and illustrations as in that book. Unfortunately, text-figures 19–24 in Huemer & Karsholt (1999), depicting the last abdominal segments of males, have been published incorrectly after the proof-reading stage. Text-figs. 19–21 should be corrected to 22–24. The last three were produced twice (see also text-figs. 25–27), whereas text-figs. 19–21 were omitted by the printers.

### *Recurvaria costimaculella* sp. n.

(Figs. 1, 9–10)

*Material examined.* Holotype ♂, Italy, 'Sicilia, Mistretta Mercuore, 700 m, 21.–30.VI 1952 J. Klimesch' (ZSM). Paratypes: 1 ♂, same data as holotype (ZSM); 2 ♂, ditto, but 1.–6.vii.1952 (GEL 888 P. Huemer) (TLMF; ZSM).

**Diagnosis.** – Adult (Fig. 1). Wingspan 12–13 mm. Segment 2 of labial palp black (cream whitish on inner surface) with white tip; segment 3 white with black ring before middle. Antenna shortly ciliate, black, indistinctly ringed with lighter brown. Head whitish grey in middle, blackish brown at lateral margins; thorax and tegula concolorous with forewing. Forewing elongate, light grey, mottled with grey-brown; prominent black mark running from base of costa along fold to 2/5; another prominent black patch at costa before middle, with small black spot at lower margin; tornal and costal spots brownish black, indistinct, with a vertical, black streak between them; termen with scattered black scales; fringes grey. Hindwing light brownish grey, with light grey fringes. **Similar species.** – The prominent black mark on the light grey forewing is unique among European Gelechiidae. The forewing markings of the related *R. thomeriella* (Chrétien 1901) are somewhat similar, but on a much darker background. *R. toxicodendri* Kuznetsov, 1979, from Far East Russia slightly resembles *R. costimaculella* in wing markings, but the genitalia are clearly different, and the two species may not even be congeneric. **Male genitalia** (Figs. 9–10). – Sternite VIII with two broad lateral lobes, deeply emarginate medially; tergite VIII very small; uncus long and moderately narrow; tegumen strongly widened anteriorly; valva very long and slender, extended distally to about tip of uncus; posterior margin of vinculum with pair of moderately short digitate processes, anteriolateral margin with long rod-like projection; aedeagus very short, fused with vinculum near posterior margin.

**Female.** – Unknown.

**Distribution.** – Only known from Sicily.

**Biology.** – Host-plant and early stages unknown. The type-series was collected from late June to early July.

**Etymology.** – Named after the peculiar costal marking of the forewing.

**Remarks.** – *Recurvaria costimaculella* sp. n. is clearly related to *R. thomeriella* (Chrétien). This is evident from the similarity of the peculiar shaped male abdominal sternite VIII, the strongly projected vinculum and the valvae. However, the two species differ in the strongly different shape of the tegumen and uncus. In the absence of a generic revision both species are only tentatively assigned to *Recurvaria*.



Fig. 1. *Recurvaria costimaculella* sp. n., male, Italy, Sicily. 12 mm.

Fig. 2. *Schneidereria pistaciella* Weber, male, Ukraine, Crimea. 9.5 mm.

Figs 3–4. *Teleiodes albiluculella* sp. n., males, Greece, Crete. 10 mm.

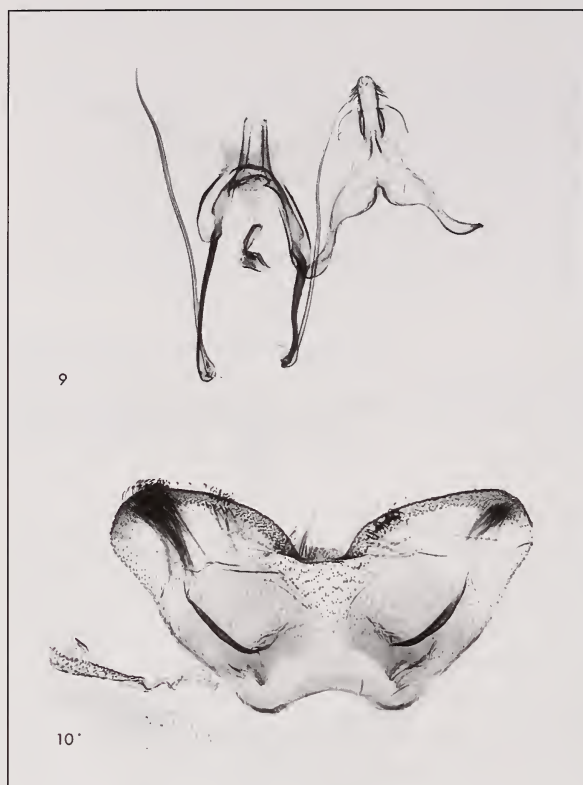
Fig. 5. *Altenia mersinella* (Staudinger), female, Syria. 13 mm.

Fig. 6. *Teleiodes traugotti* sp. n., male, Spain, Andalusia. 10 mm.

Fig. 7. *Mirificarma minimella* sp. n., female, Greece, Pelopónnisos. 12 mm.

Fig. 8. *Mirificarma* sp. (cf. *minimella*) Male, Greece, Rhodos. 12 mm.





**Figs. 9–10.** *Recurvaria costimaculella* sp. n., male genitalia/abdominal segment VIII. – **Fig. 9.** paratype, Italy, GEL 888 (genitalia) (TLMF). – **Fig. 10.** ditto (segment VIII).

### *Schneidereria pistaciella* Weber, 1957: 68

(Figs. 2, 11–12, 26–27)

**Material examined.** – Ukraine, 2 ♂, 1 ♀, Crimea, Karadagh, 11.viii.1987, leg. Yu. Budashkin (GU 98/807 P.O. Huemer); 3 ♂, 1 ♀, ditto, but 5.–8.viii.1996, leg. A. Bidzilya (gen. slide 1836 H. Hendriksen, GU 99/868 P. Huemer) (ZMKU, ZMUC). Greece, 1 ♂, Lakonia, 7 km sw Monemvasia, 8.viii.1980, leg. Christensen (GU 00/907 P. Huemer) (ZMUC); 1 ♂ Chios, Limnia, 15 m, 29.viii.1996; 1 ♂, 1 ♀, ditto, but 19. & 25.ix.2000, leg. Sutter (GU 5055, 6384, 6385 R. Sutter) (SUTT).

**Diagnosis.** – Adult (Fig. 2). Wingspan 9–10 mm. Segment 2 of labial palp black mottled with light grey on outer and lower surface, cream whitish on inner and upper surface; segment 3 white, with black rings at base, at middle and near apex. Antenna shortly ciliate in male, black, indistinctly lighter ringed. Head, thorax and tegula whitish grey mottled with black. Forewing elongate, blackish mottled with whitish scales; two somewhat indistinct whitish, outwards oblique bands near base; an indistinct, blackish transverse fascia near base and one such at three-quarters; in middle of wing a few black spots and some orange scales; fringes grey with many black and whitish scales. Hindwing slender, light grey with concolorous fringes.

**Similar species.** – The small size, the slender wings and the lack of raised scales on the forewings separates *pistaciella* from other European Teleiodini.

**Male genitalia** (Figs. 11–12). – Sternite VIII broad, sub-rectangular, only weakly emarginated distomedially; tergite VIII long, tongue-shaped with pair of long coremata laterobasally; uncus sub-oval, apically rounded; gnathos large, tongue-shaped; tegumen

deeply emarginate anteriorly with widening and very broad lateral parts; valva long, weakly bulbous at base, strongly curved; vinculum strongly reduced; juxta extended posteriorly with pair of distinct processes; aedeagus short, curved, broad at base, distally pointed (lateral view).

**Female genitalia** (Figs. 26–27). – Apophyses anteriores very long; segment VIII simple, without distinct modifications, rather short; ductus bursae short, membranous; corpus bursae well developed, signum large, sub-rhombic.

**Distribution**. – Eastern Mediterranean area (Ukraine, Greece, Cyprus, Syria); possibly also in Iraq and Iran (Sattler 1982).

**Biology**. – The larva has been reported as a pest of *Pistacia vera* L. (Anacardiaceae). It bores into the half-ripe nuts and destroys the kernel (Weber 1957). Pupation takes place after hibernation and moths have been recorded in a single generation from June to early August, whereas the closely related *S. pistaciicola* (Danilevsky 1955) occurs in two to three generations (Sattler 1982).

**Remarks**. – The genus *Schneidereria* shows a close relationship to *Teleiodes*, differing primarily in a few characters of the vinculum/juxta. In the absence of a generic revision it is here retained as a separate genus.

### ***Teleiodes italica* Huemer, 1992: 8**

(Figs. 13–18)

*Teleiodes gallica* Huemer, 1992, figs. 6, 23–26, 33–34. **Syn. n.**

**Diagnosis**. – Adult. See Huemer & Karsholt (1999: 57).

**Male genitalia**. – See Huemer & Karsholt (1999) and Figs. 13–18.

**Female genitalia**. – See Huemer & Karsholt (1999).

**Distribution**. – Widely distributed in the western Mediterranean area, from southern Switzerland and Italy through France and Spain.

**Biology**. – The larva seems to be restricted to various trees and shrubs in the family Rosaceae such as *Crataegus*, *Cydonia* and *Sorbus aucuparia*. Adults occur from late May to late July and are attracted to light.

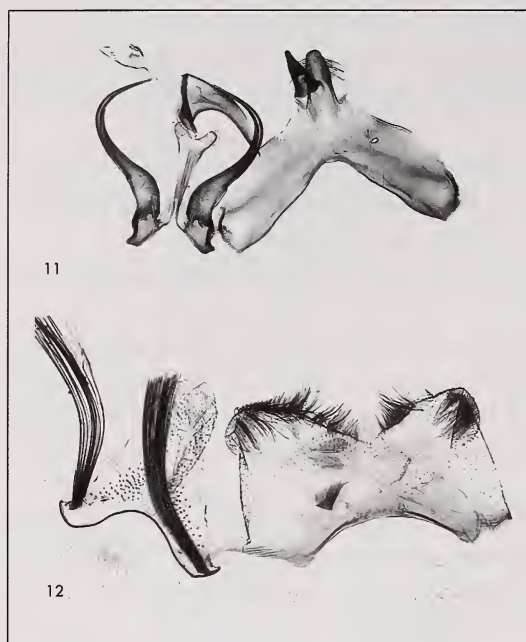
**Remarks**. – The differential diagnosis of *Teleiodes italica* and *T. gallica* was based on alleged differences in the shape of the valva (see Huemer 1992; Huemer & Karsholt 1999). However, an examination of more extensive material from various parts of the Mediterranean area has shown a considerable degree of individual variation with intermediate characters and also a tendency to geographically correlated character complexes (Figs. 13–18). We therefore consider *T. gallica* as a new subjective synonym of *T. italica*.

### ***Teleiodes albiluculella* sp. n.**

(Figs. 3–4, 19–22)

**Material examined**. – Holotype, ♂, Greece, 'GR, Crete W. Omalos, 1200 m. 25.–30.VI.2000 leg. M. Fibiger, P. Svendsen, D. Nilsson, A. Madsen' (ZMUC). Paratypes: 4 ♂, 7 ♀, same data as holotype (genitalia slides H. Hendriksen 2669, 2744; 91/961, 91/963 P. Huemer, GEL 968 P. Huemer)(TLMF, ZMUC); 1 ♂, Crete, Kallergi; Mts., 1450–1550m, 28.–30. vii. 2001, leg. M. Fibiger, A. Madsen, D. Nielsson, P. Svendsen (ZMUC)

**Diagnosis**. – Adult (Figs. 3–4). Wingspan 9–11 mm. Labial palp slender, white; segment 2 mottled with black, especially on outer surface; segment 3 with 2–3 black



rings. Antenna ringed with black and brown. Head cream; thorax white with a few darker scales; tegula white with blackish base. Forewing slender, white, mottled with yellowish and black (especially in apical part), and with distinct black markings: on costa at base, one third and two thirds (costal spot); a distinct, oblique black spot near base in middle of the wing, often reaching dorsum; tornal spot prominent, having width of two thirds of the wing; fringes dark grey. Hindwing dark grey, darkest towards apex.

**Figs. 11–12.** *Schneidereria pistaciella* Weber, male genitalia/abdominal segment VIII. – **Fig. 11.** Ukraine, GU 99/868 P. Huemer (genitalia) (ZMKU). – **Fig. 12.** ditto (segment VIII).

**Variation.** – Some specimens have blackish scales scattered all over the forewing. Occasionally the costal and tornal spots are confluent.

**Similar species.** – *T. albiluculella* **sp. n.** resembles *T. albidorsella* Huemer & Karsholt, 1999, but is even lighter. In *T. albidorsella* the labial palps are black, and it often has an indistinct orange spot in the middle of the forewings. It is also similar to *Altenia mersinella* (Staudinger) (Fig. 5), which is on average larger (11–13 mm), with more white labial palps (especially segment 2) and the forewings mottled with light brown (instead of black) scales. In *A. mersinella* the tornal spot is rather indistinct, but in contrast to *T. albiluculella* **sp. n.** it has a black longitudinal spot that ends between the costal and tornal spots.

**Male genitalia** (Fig. 19). – Sternite VIII broad, trapezoid; tergite VIII long, broadly tongue-shaped with pair of long coremata laterobasally; uncus sub-rectangular with strongly sclerotized apical tooth; gnathos with short, pointed medial process; tegumen slender, strongly projected anteriorly with extremely deep emargination; valva long, almost sickle-shaped, curved, without bulbous base; vinculum strongly reduced; processes of juxta digitate; aedeagus short, slender, more or less fused with ventral wall of tegumen.

**Female genitalia** (Figs. 20–22). – Apophyses posteriores about 3.5 times length of segment VIII; segment VIII simple, without distinct modification, strongly fused with segment VII; apophyses anteriores shorter than segment VIII, bent; ostium bursae/antrum extended caudally, separating a strongly sclerotized tube, which extends beyond the entire length of segment VIII; distal part of tube with flap-like dorsal sclerite, medial part with transverse ribbon-like sclerotizations; base of tube fused with anterior margin of segment VIII; ductus bursae membranous, long; corpus bursae well separated with tiny accessory bursa; signum with pair of serrate-edged lobes.



**Distribution.** – Greece (Crete).

**Biology.** – Host-plant and early stages unknown. The adults have been collected at light in late June in a mountain area.

**Etymology.** – The species name refers to the moderately close relationship with *T. luculella*.

**Remarks.** – *T. albiluculella* **sp. n.** is easily recognized by the male and female genitalia which show some unique characters. At first glance *T. albiluculella* **sp. n.** resembles *Teleia mersinella* Staudinger, 1879. However, the male genitalia of the latter are very different (Fig. 24) and show that *mersinella* belongs in the genus *Altenia* Sattler, 1960 (as *Altenia mersinella* (Staudinger, 1879) **comb. n.**). This species has not been recorded from Europe, but as it is known from adjacent parts of the eastern Mediterranean area (Cyprus, Lebanon, Syria, Turkey), it may also occur in south-eastern Europe. We therefore figure *mersinella* and its genitalia (Figs. 24–25). *A. mersinella* is related to *A. elsneriella* Huemer & Karsholt, 1999, in genitalia characters, with some differences in the shape of the female ostium bursae.

### *Teleiodes traugotti* **sp. n.**

(Figs. 6, 23, 28)

**Material examined.** – Holotype ♂, Spain, 'Hispania, Andalucia, Sierra de Marbella, El Mirador, 700 m, 10.7.1982, E. Traugott-Olsen' 'GU 99/875 P. Huemer' (ZMUC). Paratypes: 1 ♂, same data as holotype, but 19.viii.1977 (gen. slide 5317 Traugott-Olsen); 1 ♂, 2 ♀, ditto, but 14.vii.1980 (gen. slide 5551 Traugott-Olsen; GU 00/906 P. Huemer); 1 ♂, ditto, but 21.vii.1982 (Gen. prep. Nr. 4985 O. Karsholt) (TLMF, ZMUC).

**Diagnosis.** – Adult (Fig. 6). Wingspan 10 mm. Labial palp blackish with two lighter rings at segment 2 and 3, respectively. Antenna in male slightly serrate and ciliate, black, ringed with grey, in female simple, black, ringed with light grey. Head light grey mottled with black; thorax and tegula concolorous with forewing. Forewing fuscous, mottled with light grey, ochreous and black scales; a blackish, indistinct, angulated band near base; two black patches at costa at one third and two thirds; two black spots surrounded with ochreous scales in middle of wing; three groups of short, raised, ochreous scales in middle of the wing at one, two and three-quarters; a thin, but distinct, black line running from middle of wing into apex; a more distinct such line running along the fold; fringes concolorous with forewing. Hindwing dark grey, lighter towards base, with grey fringes.

**Similar species.** – Very similar to *T. huemeri* Nel, 1998, which is distinctly larger and has broader forewings. Also similar to *T. cisti* (Stainton, 1869), which has more prominent raised scales in the forewings, and to *T. sequax* (Haworth, 1828), which can be recognized by its more brownish forewings.

**Male genitalia** (Fig. 23). – Sternite VIII broadly sub-rectangular; tergite VII tongue-shaped; uncus long, slender, evenly tapered, apex truncate; gnathos about width and length of uncus; tegumen with narrow sinus-shaped emargination anteromedially; pedunculi distinct moderately narrow sclerites; valva evenly curved ventrad, with sharp point; processes of juxta of intermediate length (compared with *T. sequax* and *T. huemeri*); aedeagus curved ventrad, slender.

**Female genitalia** (Fig. 28). – Apophyses anteriores about three times length of segment VIII; segment VIII with weakly sclerotized laterodorsal parts, medially membranous; ostium bursae near anterior margin of segment VIII with sclerotized band dorsal of antrum; antrum indistinct, funnel-shaped; ductus bursae short, not extending beyond apophyses anteriores; corpus bursae very small; signum reduced.

**Distribution**. – Only known from Spain (Andalusia).

**Biology**. – Host-plant and early stages unknown. The few adults known to date have been collected in July and August.

**Etymology**. – The species is named after its collector, Mr. Ernst Traugott-Olsen (Marbella, Spain).

**Remarks**. – *T. traugotti* **sp. n.** is most closely related to *T. huemeri* and *T. sequax*. However, the peculiar ostium/antrum and the reduced signum are characteristic for the new species. It differs from *T. huemeri* in the slightly shorter and more narrow processes of the juxta in the male genitalia and the absence of a ribbon-like sclerotization of the female sternite VIII. *T. sequax* is immediately recognized by the dorsolateral humps of the male tegumen and the ostial sclerotization in the female.

### *Mirificarma minimella* **sp. n.**

(Figs. 7, 29, 33)

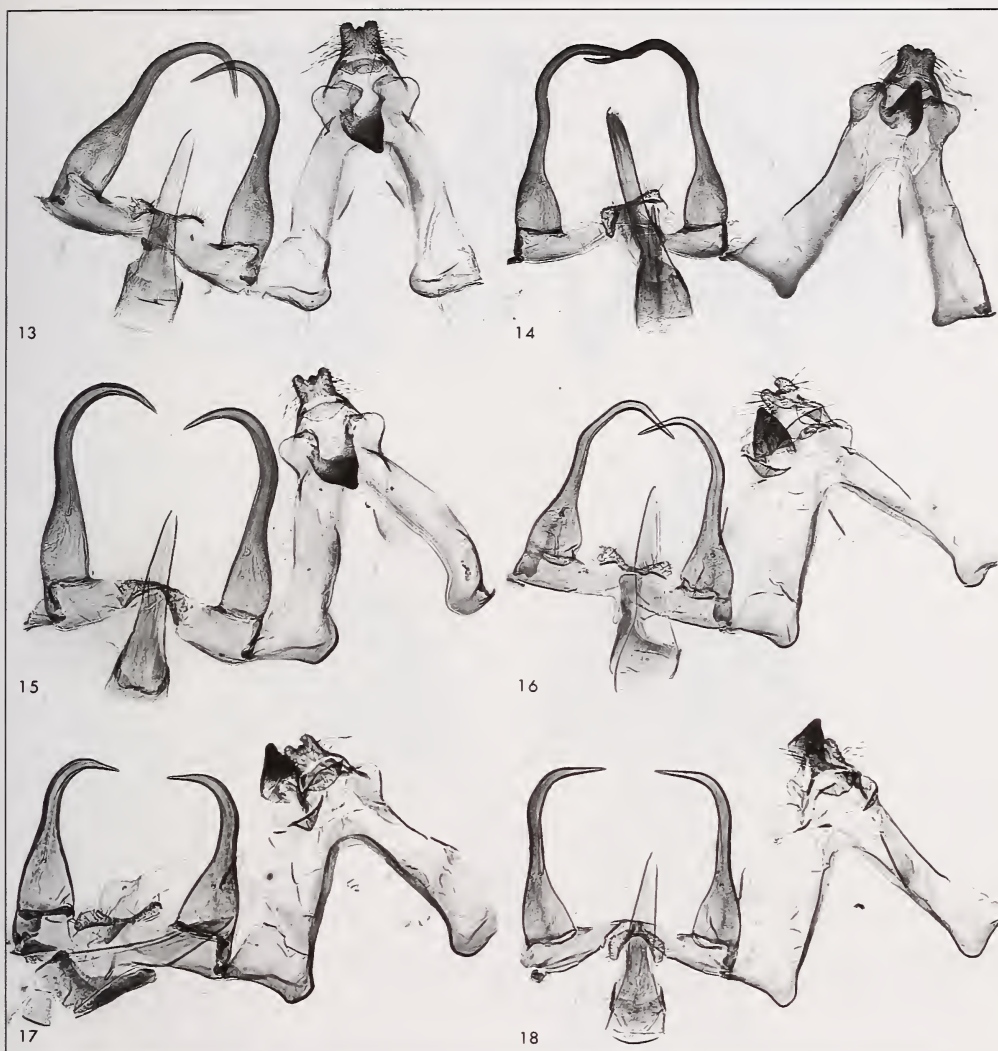
**Material examined**. – Holotype ♀, 'Hellas, Lakonia, 7 km sw Monemvasia, 13.v.1980, leg. G. Christensen' 'ZOOLOG. MUSEUM, DK COPENHAGEN' 'L.M.P. genitalia slide female No. 16' '*Mirificarma rhodoptera* (Mann) (small form) det. L. M. Pitkin, 1982' '*Mirificarma ?rhodoptera* Mann, det. O. Karsholt'. Paratypes: 1 ♂, 1 ♀, same data as holotype, but 5 km s. Monemvasia, 18.v.1978; 2 ♀, ditto, but 5 km s. Monemvasia, 22.v.1978 (gen. slide No. 2 L.M.P. 1982; Gen. prep. Nr. 4985 O. Karsholt); 1 ♀, ditto, 16.v.1980 (gen. slide No. 7 L.M.P.); 1 ♂, ditto, 18.v.1978 (GU 00/893 P. Huemer); 1 ♀, ditto, 2.vi.1983; 1 ♂, ditto, 16.v.1987; 1 ♂, ditto 15.–17.vi.1982, leg. Skule & Langemark (gen. slide H. Hendriksen 1814) (all ZMUC); 1 ♀, ditto, but 18.v.1978, leg. G. Christensen (BM Genitalia slide No. 22480) (BMNH); 1 ♂, ditto, but 16.v.1980 (BM Genitalia slide No. 22479) (BMNH); 1 ♀, ditto, but Monemvasia, 9.v.1979, leg. Gozmány & Christensen (BM Genitalia slide No. 24491) (BMNH); 1 ♂, Hellas, Lakonia, Mt. Taygetos, 1000 m, 11.vi.1978, leg. Christensen (gen. slide No. 5 L.M.P.) (ZMUC); 2 ♀, Pelopónnisos, Yithion, 14.v.1990, leg. O. Karsholt, Zool. Mus. Copenh. Exp. (ZMUC).

**Additional material**: 1 ♀, Crete, Iraklion distr., Zaros, 5.–6.vi.1988, leg. R. Johansson (ZMUC); 1 ♀, Crete, Lassithi distr., Kapsa gorge, 15.v.1993, leg. Johansson (ZMUC); 1 ♀, Crete, Lassithi distr., Makrigialos, 15.v.1993, leg. Johansson (ZMUC); 2 ♂, Crete, Agia Pelagia, 20.–26.iv.1995, leg. Fibiger (GU 00/952 and GU 00/958 P. Huemer) (ZMUC); 1 ♀, Crete, Ag. Galini, 20 m, 24.v.1994, leg. Sutter (GU 6115 R. Sutter) (SUTT); 1 ♂, 1 ♀, Crete, south-east, Makrigialos, Aspros Potamos, 20 m, 22. & 25.v.1998, leg. Sutter (GU 6254, 6255 R. Sutter) (SUTT); 1 ♂, Rhodos, Faliraki, 4.v.1991, leg. Klimesch; 3 ♂, ditto, 5.v.1991 (GU 00/953 and GU 00/955 P. Huemer); 1 ♀, ditto, 8.v.1985 (gen. slide H. Hendriksen 2579); 1 ♀, ditto, 11.v.1991; 1 ♀, ditto, 12.v.1991 (GU 00/956 P. Huemer) (all ZSM).

**Diagnosis**. – Adult (Fig 7). Wingspan 12–13 mm. Labial palp cream, mottled with dark brown, especially on outer surface of segment 2 and on segment 3. Antenna blackish brown, ringed with light brown. Head light brown; thorax and tegula concolorous with forewing. Forewing covered with light brown scales with blackish brown tips; black spots at one third and two thirds surrounded by orange-yellowish; costal and tornal spots yellowish orange, often fused in an angulated fascia; apical area with many blackish scales; cilia greyish, with black cilia line. Hindwing dark grey, with greyish fringes.

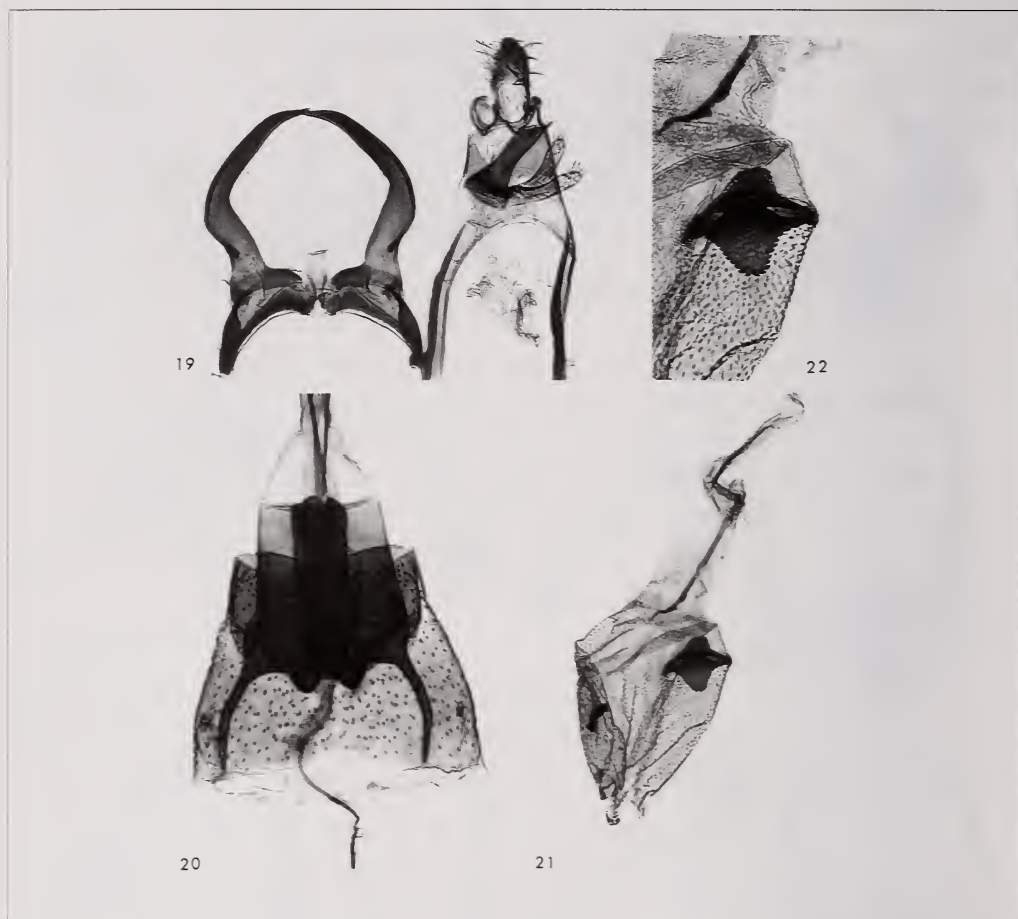
**Variation**. – Specimens from the type locality may have the forewing more or less covered with black scales, and they vary slightly in the distinctness of the black markings. In specimens from Rhodos (Fig. 8) the black spots in the forewings are more





**Figs. 13–18.** *Teleiodes italica* Huemer, male genitalia. – **Fig. 13.** Italy, GEL 267 (*T. italica* holotype) (TLMF). – **Fig. 14.** France, GEL 259 (*T. gallica* holotype) (TLMF). – **Fig. 15.** Italy, GU 91/287 P.Huemer (*T. italica* paratype) (ZMUC). – **Fig. 16.** Spain, 2043 Hendriksen (ZMUC). – **Fig. 17.** Italy, 904 Hendriksen (ZMUC). – **Fig. 18.** Spain, 2040 Hendriksen (ZMUC).

distinct, with the one at one third often forming a transverse streak from the dorsum almost to the costa. From Crete we have examined specimens which are similar to those from the type locality, others which resemble those from Rhodos, and some intermediate forms. However, the specific identity of those insular populations is uncertain (see below). **Similar species.** – *M. rhodoptera* (Mann) is larger (wingspan 13–16 mm), with more black on the labial palps and the forewings, and with the black, orange-yellowish surrounded black spot in the forewing at one third extending from the dorsum almost to the costa. The strongly marked form occurring in Rhodos and Crete is externally very similar to *rhodoptera*, but is smaller and has genitalia similar to those of *minimella*.



**Figs. 19–22.** *Teleiodes albiluculella* sp. n., paratypes, Greece (Crete). – **Fig. 19.** Male genitalia GEL 968 P. Huemer. – **Figs. 20–22.** Female genitalia GU 01/963 P. Huemer.

**Male genitalia** (Fig. 29). – Uncus trapezoidal; gnathos hook strong; valva long, extending to about middle of uncus; sacculus rather narrow, short; saccus short, slightly pronounced; aedeagus short, weakly swollen at base, with short apical projection.

**Female genitalia** (Fig. 33). – Apophyses anteriores short; apophyses posteriores about twice length of anteriores; antrum funnel-shaped, narrow, tapered, almost extending to tip of apophysis anterioris; ductus and corpus bursae well separated; signum small, sub-oval, spiny.

**Distribution.** – Greece (Lakonia).

**Biology.** – Host-plant and early stages unknown. The adults have been collected from mid-May to mid-June.

**Etymology.** – The species name refers to the small size of the new species compared with *M. rhodoptera*.

**Remarks.** – *M. minimella* sp. n. is very similar to *M. rhodoptera* (Mann, 1866) in male genitalia (Fig. 30). Minor differences are found in the slightly longer valva, more



Figs. 23–24. Male genitalia. – Fig. 23. *Teleiodes traugotti* sp. n., paratype, 4985 O.Karsholt (ZMUC). – Fig. 24. *Altenia mersinella* (Staudinger), Turkey, GEL 961 P. Huemer (TLMF).

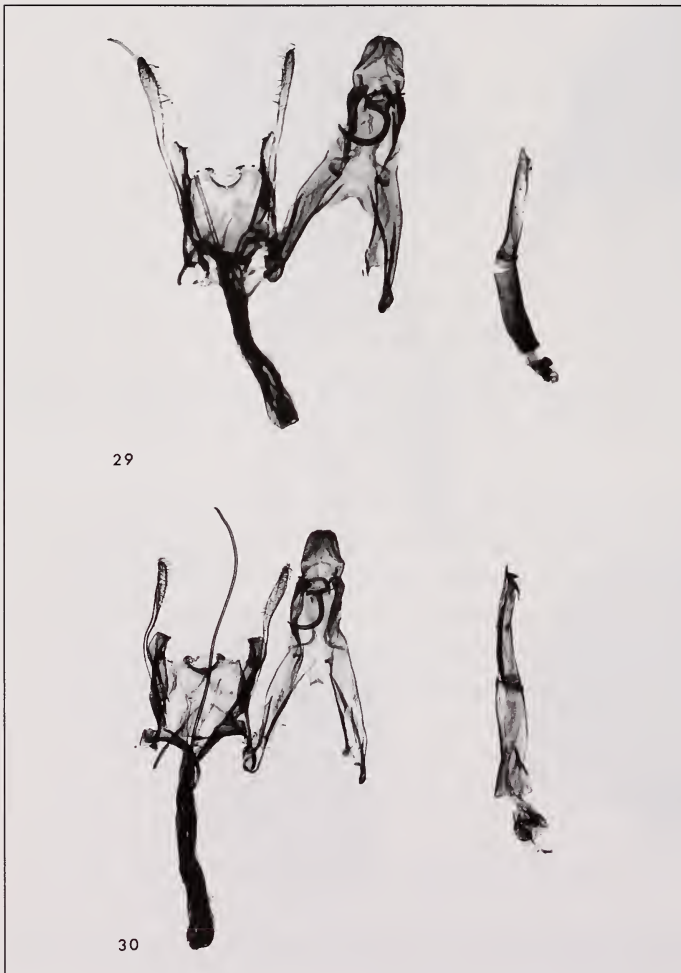


Figs. 25–26. Female genitalia. – Fig. 25. *Altenia mersinella* (Staudinger) (signum enlarged), Cyprus, (GEL 962 P. Huemer) (TLMF). – Fig. 26. *Schneidereria pistaciella* Weber, Ukraine, 1836 Hendriksen (ZMKU).

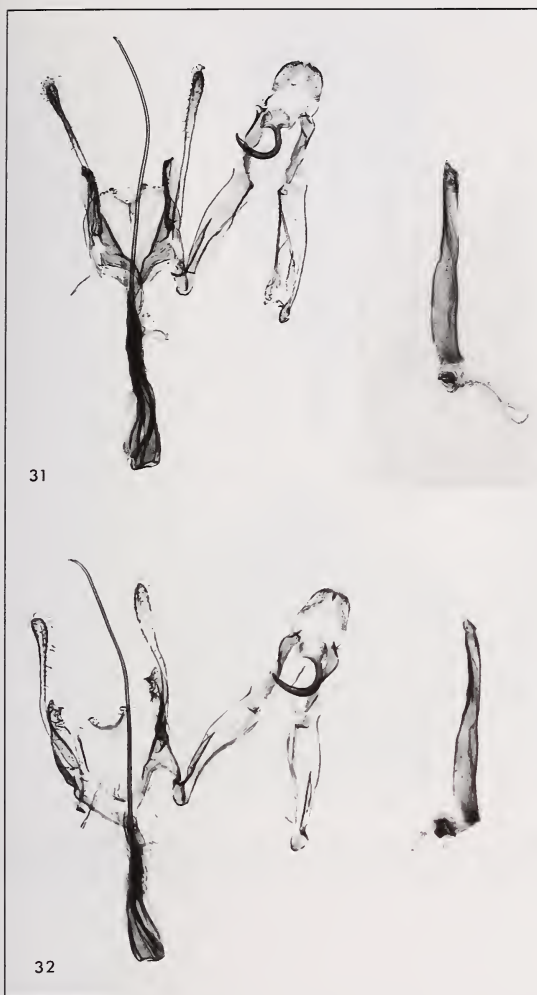




**Figs. 27–28.** Female genitalia. – **Fig. 27.** *Schneidereria pistaciella* Weber (signum in left upper corner), Greece (Chiros), GU 6385 Sutter (SUTT). – **Fig. 28.** *Teleiodes traugotti* sp. n., holotype, GU 99/875 P. Huemer (ZMUC).



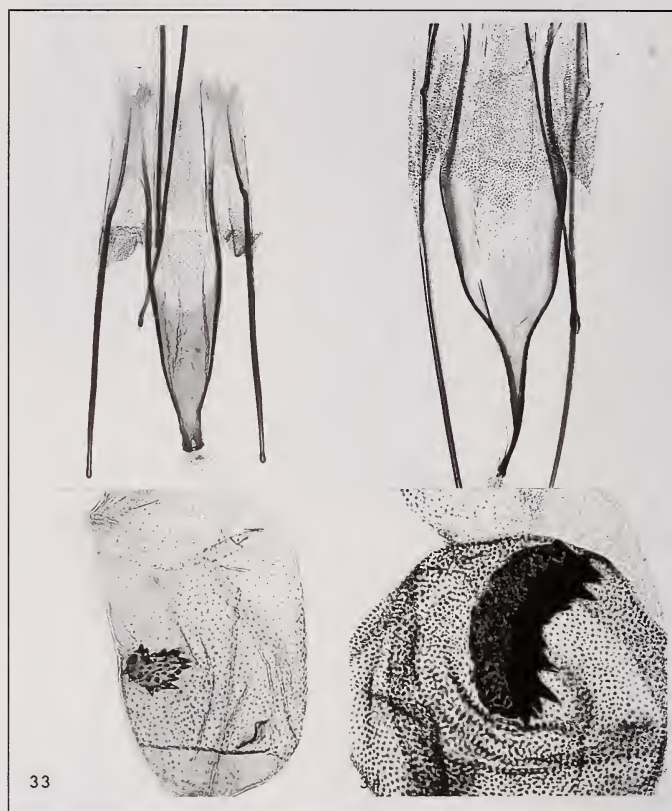
**Figs. 29–30.** *Mirificarma* spp., male genitalia. – **Fig. 29.** *M. minimella* sp. n., paratype, Greece, GU 00/893 P. Huemer (ZMUC). – **Fig. 30.** *M. rhodoptera* (Mann), Greece, GU 99/871 P. Huemer (ZSM).



**Figs. 31–32.** *Mirificarma* sp. (cf. *minimella* sp. n.), male genitalia. – **Fig. 31.** Greece (Rhodos), GU 00/953 P. Huemer (ZSM). – **Fig. 32.** Greece (Crete), GU 00/952 P. Huemer (ZMUC).

pronounced saccus and narrower sacculus of the former. Such comparatively small differences in character states are of specific value in several other groups of Gelechiidae. Furthermore, the female genitalia are clearly differing in the evenly tapered antrum (strongly constricted in *M. rhodoptera*), the shape of the corpus bursae and the small sub-oval signum (large, kidney-shaped in *M. rhodoptera*) (Fig. 34).

*M. minimella* sp. n. was considered as a small local form of *M. rhodoptera* (Pitkin, 1984: 21). However, genitalia differences in characters of high diagnostic value within the genus point to the existence of two species. This interpretation is also supported by the sympatric occurrence of *M. rhodoptera* and *M. minimella* sp. n. at Monemvasia. Specimens from Rhodos and Crete are very similar to *M. minimella* sp. n. and may represent insular populations of the latter. The male genitalia (Figs. 31–32) are practically indistinguishable from those of *M. minimella* sp. n. However, small differences in the shape of the female signum (Figs. 35–36), which is larger with much longer spines than in specimens from Lakonia, leave some doubts about the identity.

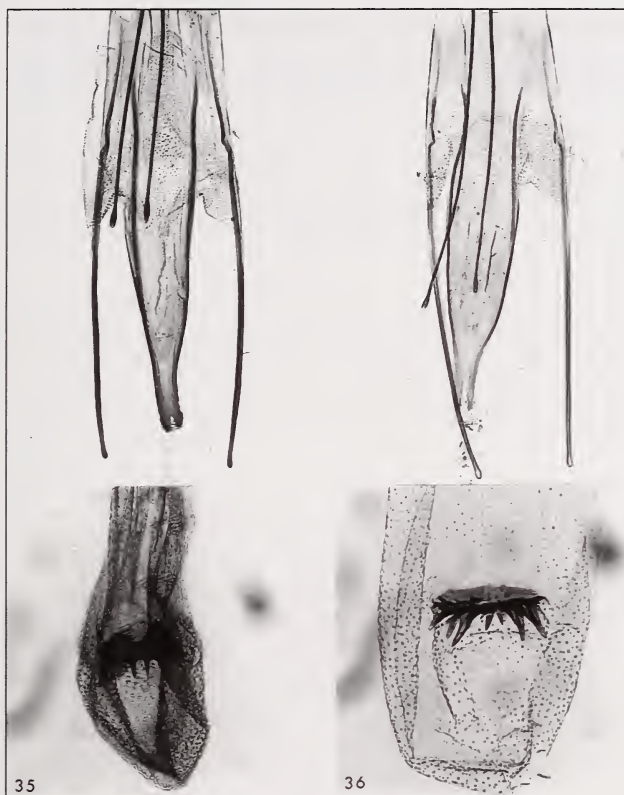


**Figs. 33–34.** *Mirificarma* spp., female genitalia (signa two times enlarged). – **Fig. 33.** *M. minimella* sp. n., holotype, Greece, LMP 16 (ZMUC). – **Fig. 34.** *M. rhodoptera* (Mann), Greece, GU 99/872 P. Huemer (ZSM).

## Conclusions

Gelechiidae are one of the most diverse families of Lepidoptera within the European fauna, including more than 650 species. However, due to the lack of comprehensive identification literature this group was hitherto grossly neglected by lepidopterists. In Teleiodini and Gelechiini, for example, several genera were for the first time reviewed very recently (Huemer & Karsholt 1999) and other tribes will be treated only within the next 10 years when we plan to finish further 3 volumes for 'Microlepidoptera of Europe'. Therefore the discovery of new species both for the European fauna and for science does not come as a real surprise. Particularly in the Mediterranean area the species inventory is still incomplete and we already know a number of additional taxa mainly from the south-eastern part. Most of them will be described by other specialists in the nearer future. On the contrary only few additional species can be expected in central and northern Europe, an area with a long tradition in lepidopterology. However, strong efforts will be necessary to improve the limited knowledge about biology and distribution of many species even in this part of the continent.





**Figs. 35–36.** *Mirificarma* sp. (cf. *minimella* sp. n.), female genitalia. – **Fig. 35.** Greece (Rhodos), GU 00/956 P. Huemer (ZSM). – **Fig. 36.** Greece (Crete), GU 00/957 P. Huemer (ZMUC).

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