

Glossotrophia annae sp. n. from Spain (Lepidoptera : Geometridae)

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Summary

A short review of *Glossotrophia* is given. *G. annae* sp. n. is described and compared with *G. confinaria* (H.-S. [1847]) and *G. asellaria* (H.-S. [1847]). *G. diffinaria* PRT. 1913 is reported as new for Europe.

Glossotrophia PRT.

Glossotrophia PROUT 1913 in SEITZ, The Macrolepidoptera of the World 1 (4) : 82. Type species : *Acidalia confinaria* H.-S. [1847] by original designation.

The German edition of the work of SEITZ (with the same date) contains an error regarding the number of spurs on the hindtibiae in females ("♀ ohne Sporen"), corrected in the English edition ("♀ with two spurs"). The essential point is, however, the absence of spurs in the middle of the hindtibiae in both sexes, only distal (or terminal) spurs being present.

Other characters in *Glossotrophia* as distinct from *Scopula* are the extremely long proboscis, the non-specialized hindtarsi and the terminal line on the forewings extending round the apex, the last character occurring also in some *Scopula*.

The genitalia in *Glossotrophia* are fundamentally of the same structure as in *Scopula* and extremely uniform throughout the genus, seldom showing specific characters. In females, specific characters occur sometimes in the ostium. In the males, valuable specific characters are present in the sclerotized eighth sternite with its free mappa and cerata (from *kérata* (Greek) = horns ; singular : *ceras*). This structure has always been considered as belonging to the genitalia, having evidently an important function during copulation. It was figured for the first time in the monographic work on the *Sterrhinae* by STERNECK (1940-1941).

Glossotrophia are distributed throughout the southern part of the western Palaearctic region. Twenty-four species have been described in the genus or subsequently referred to it, of which *G. similata* LE CERF 1924 from Eritrea and *G. moralesi* RUNGS 1945 from the Sahara belong to other genera.

Twenty-two species remain, of which three have been described from Europe (*G. asellaria* (H.-S. [1847]), *G. confinaria* (H.-S. [1847]), *G. rufomixtaria* (GRASL. 1863)), two from Africa (*G. tripolitana* TURATI 1930, *G. alfierii* WILTSHIRE 1949) and the remainder from Asia. Only one species has been reported to occur in more than one of these areas (*G. asellaria* in Europe and Africa). The occurrence of *G. asellaria* in Asia needs confirmation as well as of the genus on Teneriffa.

The male genitalia with the eighth sternite are still unknown for *G. fucata* (PÜNGELER 1908), *G. benigna* BRANDT 1941, *G. origalis* BRANDT 1941, *G. terminata* WILTSHIRE 1966, *G. bullata* VOJNITS 1986, all from the Middle East, and for *G. tripolitana* TURATI from Africa. The species from the Middle East are sufficiently different in habitus from *G. annae* sp. n. to necessitate consideration here. *G. tripolitana* will be discussed below.

Glossotrophia annae sp. n.

Figs. 1-2, 5, 8.

TYPE LOCALITY : Spain : Aragón : Province Zaragoza : Botorrita.

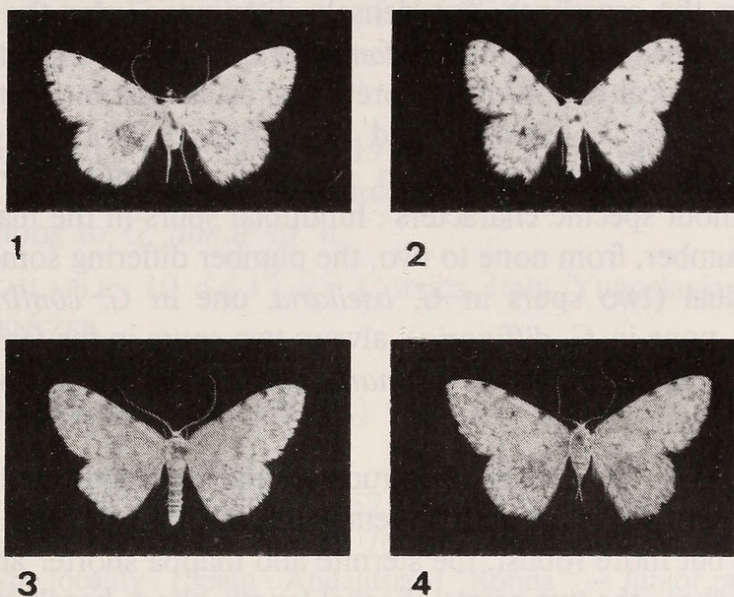
All types from Spain : Aragón.

HOLOTYPE : ♂, Botorrita 24.V.1985 (fig. 1), genital preparation E. v. MENTZER No. 12.076 (fig. 5), leg. and in coll. F. BOLLAND.

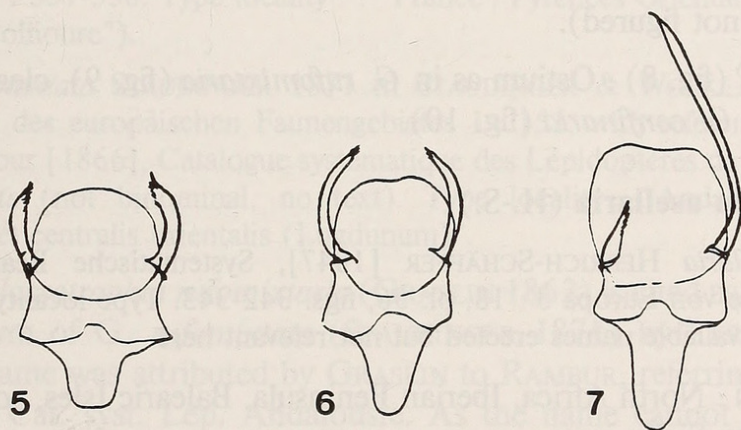
PARATYPES : 2 ♂♂ 1 ♀, Botorrita 24.V.1985 ; 1 ♂, Botorrita 25.IX.1984 ; 2 ♂♂, Bujalaroz 15.V.1987 ; 2 ♀♀, Bujalaroz 2.VI.1987 ; 1 ♀, Bujalaroz 29.IX.1981 ; 1 ♀, Barbastro 25.IX.1985 ; 1 ♀, Peñalba 26.IX.1983. Leg. and in coll. F. BOLLAND. — 1 ♀, Bujalaroz 3.VI.1983, prep. E. v. M. No. 12.077, leg. F. BOLLAND (fig. 8) ; 1 ♀, Botorrita 2.VI.1983, leg. F. BOLLAND ; 1 ♂, Peñalba 27.V.1983, prep. E. v. M. No. 12.066, leg. A. MOBERG. In coll. E. v. MENTZER.

ETYMOLOGY : After Anna Bolland (the wife of the collector), who found the first locality for *G. annae* sp. n.

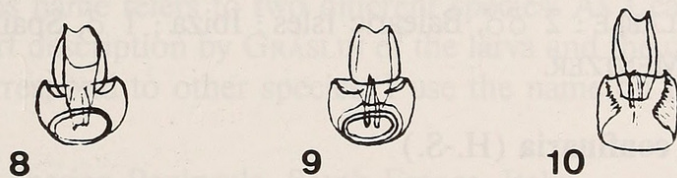
DESCRIPTION : ♂ and ♀ (figs. 1-2). Wingspan ♂♂ 21.5-26.5 mm (holotype 25.0 mm, \bar{x} = 24.5 mm, n = 7), ♀♀ 20.5-26.0 (\bar{x} = 23.9 mm, n = 8). Similar to pale specimens of *G. confinaria* (H.-S.) and to some extent also to slightly yellowish forms of *G. rufomixtaria* (GRASL.) ; body, antennae and wings including the fringes ivory-white, due to a mixture of white and pale yellowish grey scales as in *G. confinaria* ; crosslines with costal spots pale ochreous, rather diffuse but less so than in *G. confinaria*, sometimes obsolete, produced by the concentration of the pale yellowish grey scales ; terminal line brown, interrupted on the veins ; cell-dots pale brown, diffuse ; wings scantily irrorated dorsally with dark brown scales, chiefly in the median and apical



Figs. 1-4. *Glossotrophia* spp. — 1. *G. annae* sp. n. ♂ holotype, Spain : Aragón : Botorrita 24.V.1985. — 2. *G. annae* sp. n. ♀ paratype, Spain : Aragón : Bujalaroz 3.V.1983. — 3. *G. confinaria* (H.-S.) ♂, Italy : Piedmont : Ormea 9.VII.1954. — 4. *G. rufomixtaria* (GRASL.) ♀, Spain : Catalonia : Monte Caro 30.VI.1964. — Life size.



Figs. 5-7. Male genitalia (eighth sternite) in *Glossotrophia*. — 5. *G. annae* sp. n. holotype fig. 1, prep. No. 12.076. — 6. *G. rufomixtaria* (GRASL.), Italy : Umbria : Orvieto 10.VIII.1958, prep. No. 12.022. — 7. *G. confinaria* (H.-S.), Italy : Lombardy : Val Travaglia 4.VII.1954, prep. No. 7.024. — $\times 18$, ventral view.



Figs. 8-10. Female genitalia (ostium) in *Glossotrophia*. — 8. *G. annae* sp. n. paratype, Spain : Aragón : Bujalaroz 3.VI.1983, prep. No. 12.077. — 9. *G. rufomixtaria* (GRASL.) fig. 4, prep. No. 7.026. — 10. *G. confinaria* (H.-S.), Yugoslavia : Macedonia : Matka (near Skopje) 15.VIII.1979, prep. No. 7.029. — $\times 18$, ventral view.

areas and on the crosslines, not densely distributed over the whole wing surface as in *G. confinaria* and *G. rufomixtaria*, the irrorating scales arranged linearly in the apical region of the forewings, as at least in the terminal area in *G. rufomixtaria*, *G. asellaria* and *G. diffinaria* PROUT (e.g. STERNECK 1941 : 106) ; proboscis long as in *G. confinaria* and *G. rufomixtaria* ; antennae without specific characters ; hindtibial spurs in the male of varying length and number, from none to two, the number differing sometimes in the same individual (two spurs in *G. asellaria*, one in *G. confinaria* and *G. rufomixtaria*, none in *G. diffinaria*), always two spurs in the female (as in *G. asellaria*, *G. confinaria* and *G. diffinaria*, for the last species not published earlier).

GENITALIA ♂ (fig. 5) : clasping structure and aedeagus without specific characters ; eighth sternite with appendices similar to those in *G. rufomixtaria* (fig. 6) but more robust, the sternite and mappa shorter and larger and the cerata thicker ; the two cerata of equal length, short, hardly exceeding the mappa, strongly feathered inwardly along the distal part, highly different from those in *G. confinaria* (fig. 7) where the fully developed right ceras is nearly twice as long as the mappa, from those in *G. asellaria* which has vestigial cerata and from *G. diffinaria* with both cerata "fully developed" (STERNECK 1941 : 107, not figured).

GENITALIA ♀ (fig. 8) : Ostium as in *G. rufomixtaria* (fig. 9), clearly different from that in *G. confinaria* (fig. 10).

Glossotrophia asellaria (H.-S.)

Acidalia asellaria HERRICH-SCHÄFFER [1847], Systematische Bearbeitung der Schmetterlinge von Europa 3 : 18, pl. 56, figs. 342-343. Type locality : "Corsica". Seven other available names erected but not relevant here.

DISTRIBUTION : North Africa, Iberian Peninsula, Balearic Isles, south France, Corsica, Italy, Sicily.

GENITALIA : ♂ figured in STERNECK (1940 : pl. 27, fig. 456 as *isabellaria*, eighth sternite), in AGENJO (1952 : pl. 21, fig. 3, complete), ♀ figured in AGENJO (1952 : pl. 19, fig. 9, complete but ostium not visible).

MATERIAL AVAILABLE : 2 ♂♂, Balearic Isles : Ibiza ; 1 ♂, Spain : Andalusia. All in coll. v. MENTZER.

Glossotrophia confinaria (H.-S.)

Figs. 3, 7, 10.

Acidalia confinaria HERRICH-SCHÄFFER [1847], ibid. 3 : 21, pl. 51, figs. 315-316. Type locality : "Ungarn" (probably that part which is now in Rumania). Five other available names erected but not relevant here.

DISTRIBUTION : South France, Corsica, Italy, Sicily, Switzerland, Yugoslavia, Rumania, Bulgaria, Greece ; no reliable record from the Iberian Peninsula or from Hungary.

GENITALIA : ♂ figured in STERNECK (1940 : pl. 27, fig. 466, eighth sternite, dorsal view). The male genitalia figured in DE LAEVER (1966 : 51) as *G. confinaria* belong to *G. annae* sp. n.

MATERIAL AVAILABLE : 10 ♂♂ 17 ♀♀, Corsica, Italy, Yugoslavia, Greece. All in coll. v. MENTZER.

Glossotrophia rufomixtaria (GRASL.)

Figs. 4, 6, 9.

Acidalia falsaria HERRICH-SCHÄFFER [1852] partim, Systematische Bearbeitung der Schmetterlinge von Europa 6 : 68 ; pl. 76, [1851], fig. 464 ♀ as *falsaria* (not binominal). Type locality : [Spain : Andalusia :] "Ronda". — Junior primary homonym of *Acidalia falsaria* HERRICH-SCHÄFFER [1852] partim, ibid. 6 : 68 ; pl. 76, [1851], fig. 463 ♂ as *falsaria* (not binominal, nomen dubium). Type locality : [Russia :] "Elisabethpol".

Acidalia rufomixtaria (? *Acidalia falsaria rufomixtaria*) GRASLIN 1863, Ann. Soc. ent. Fr. (4) 3 : 357-358. Type locality : ? "France : Pyrénées Orientales : Collioure" ("reared at Collioure").

Acidalia rufomixtata STAUDINGER 1871 in STAUDINGER & WOCKE, Catalog der Lepidopteren des europäischen Faunengebietes 1 : 151, with reference to pl. 16, fig. 6 in Rambur [1866], Catalogue systématique des Lépidoptères de l'Andalousie, as *rufomixtata* (not binominal, no text). Type locality : "Andalusien ; Gallia meridionalis et centralis orientalis (Lugdunum)".

The name *Glossotrophia rufomixtaria* (GRASLIN 1863) is cited as a senior and valid synonym of *G. rufomixtata* (STAUDINGER 1871) by LERAUT (1980 : 134). The name was attributed by GRASLIN to RAMBUR, referring to a figure in RAMBUR, Cat. syst. Lép. Andalousie. As the name cannot be found in RAMBUR and GRASLIN did not specify the figure, it is only a subjective supposition that the name was meant as an emendation of *rufomixtata* RAMBUR, not cited by GRASLIN, and thus formally not available without a description. The association with *Acidalia falsaria* does not resolve the problem as this name refers to two different species. As I cannot judge the extremely short description by GRASLIN of the larva and the chrysalis, which also could correspond to other species, I use the name on the authority of LERAUT.

DISTRIBUTION : Iberian Peninsula, South France, Italy.

GENITALIA : ♂ figured in STERNECK (1940 : pl. 27, fig. 462, eighth sternite), in AGENJO (1952 : pl. 21, fig. 2, complete) ; ♀ in AGENJO (1952 : pl. 19, fig. 8, complete, but ostium worthless).

MATERIAL AVAILABLE : 1 ♂, Italy : Umbria ; 3 ♀♀, Spain : Aragón and Catalonia. All in coll. v. MENTZER.

Glossotrophia diffinaria PRT.

Glossotrophia diffinaria PROUT 1913 in SEITZ, The Macrolepidoptera of the World 1 (4) : 83, pl. 4h as *luridata*. Type locality : "Kleinasien".

DISTRIBUTION : Greece (new), Turkey, Iran.

GENITALIA : ♂ "both cerata well developed" (STERNECK 1940 : 107, not figured).

MATERIAL AVAILABLE : 1 ♀, Greece : Thermopyle Sept. 1984, leg. A. MOBERG. In coll. v. MENTZER. Dark scales arranged linearly over nearly the whole dorsal surface of the forewings. New for Europe.

Glossotrophia tripolitana TURATI

Glossotrophia tripolitana TURATI 1930, Boll. Lab. Zool. gen. agr. 23 : 110-111, pl. A, fig. 1. Type locality : "Tripolitania : Sidi Messri".

The species was not considered by STERNECK (1940-1941), probably due to the still persisting difficulties in finding material. It was at first suspected to be identical with *G. annae* sp. n. because of the mixture of white and yellowish scales, the ochreous crosslines, the brown cell-dot and the number of spurs on the hindtibiae (one in the single male, two in the females). It differs, however, from *G. annae* in having a black terminal line also ventrally, which does not occur in any European species. Furthermore, it is not stated to be irrorated with dark scales, which could hardly have been overlooked.

Acknowledgement

The material of *G. annae* sp. n. was sent to me by Mr. François Bolland, Cheratte (Belgium) for study and, if required, for description, with the correct supposition that it may belong to a new species. I thank Mr. Bolland for the confidence.

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