

An additional taxon of the *Kelisia guttula* group from Central Italy: *Kelisia italica* (Auchenorrhyncha, Fulgoromorpha, Delphacidae).

ADALGISA GUGLIELMINO & REINHARD REMANE

Key-words: Taxonomy, Italy, Kelisiinae.

Abstract: *Kelisia italica* n. sp. found in high altitudes, between 1800-2200 m, in two mountain regions of the Central Italy (Monte Terminillo, Monte Velino) is described. It is closely related to *K. guttula* (Germar) sensu Wagner and *K. sima* Ribaut, but is easily distinguished from these species by the shape of the male genital segment (lobuliform projection of the caudal margin lateral of the anal tube) and the lack of the aedeagal lamella. In addition, it differs from *K. vittipennis* J. Sahlberg by the bigger spot on the genae, the lack of dark markings on the pronotum between eyes and scutum, and by the shape of the aedeagus, and from *K. irregulata* Haupt by its smaller size, the bigger spot on the genae and the male genital morphology. In the female genitalia there exists a very broad basal part of the "edeagal duct" not present in any other species of the *K. guttula*-group.

The palaeartic monophyletic group of *Kelisia guttula* (Germar) sensu Wagner, 1938 contains more species than expected a decade ago: *K. guttula* var. *sima* Ribaut, 1934 has been shown to be a species of its own, and in the *K. haupti* Wagner -subgroup two additional species were described (REMANE & JUNG, 1995).

Material from Central Italy proved to contain a further species:

Kelisia italica n. sp. (figs 1-9)

Size, proportions, colour and markings like in *K. guttula* (Germar) sensu Wagner, male genitalia rather different, though showing the apomorphic features of this group: genital segment rather big compared with the rest of the body, aedeagus very long and thin, at rest (retracted) reaching far cephalad into the abdomen.

Dimensions and proportions not distinctly different from *K. guttula* (Germar) sensu Wagner and *K. sima* Ribaut. Also colorations and markings very similar to these taxa: the black spot on the genae very big, reaching to the basis of the head's side, extended over both the anterior and posterior lateral area, the black sublateral stripe interrupted on the protorax (but very distinct on the mesothorax) (Figs 1, 2), fore wings with apical dark markings only. Hind wings in the brachypterous males and females shortened (like in *K. sima* Ribaut), their tips not or hardly reaching the row of apical crossveins, only in some males surpassing this line. Tibiae without dark longitudinal streak.

Male genitalia: Genital segment at its caudal margin with a lobuliform (tongue-shaped) projection near the dorsal end, flanking the base of the anal tube (Fig. 5). Subanal appendages long (as in *K. guttula* (Germar) sensu Wagner and *K. sima* Ribaut) reaching nearly the tip of the anal tube (Fig. 4). Aedeagus (Fig. 7) with a single mobile spine near the end (as in most other taxa of this group), but without lamella in its central region or elsewhere (like the aedeagi of *K. haupti* Wagner and *K. halpina* Remane & Jung).

Female genitalia: They belong - like the male genitalia - to the highly apomorphic type present in all other taxa of this group (so far already examined): derived from the genital chamber there is a special duct containing and guiding the long and thin aedeagus during the copulation. (see ASCHE, 1985). Length, some details of its shape and places of stronger sclerotisation (recognisable best in old, mature females) seem to be species-specific in the taxa of the *K. guttula*-group. Only in *K. italica* n. sp. this duct has such a wide, sclerotized basal part (Fig. 8) (in all other taxa this basal part is not wider than the central part). The duct is, in addition, very long (Figs 8, 9) (similarly long, but differently shaped and sclerotized only in *K. sima* Ribaut and *K. irregulata* Haupt, shorter in *K. vittipennis* J. Sahlberg and *K. guttula* (Germar) sensu Wagner).

Measurements: Length: MM brachypt.: 3.16-3.36 mm; FF brachypt. 3.0-3.3 mm, macropt. 3.6mm.

Type series: **Holotypus:** Male, **Italy:** Lazio: M.te Terminillo (Rieti), m 1900-2200, 21/8/1999, pascolo di montagna, Guglielmino & Bückle leg., in coll. Guglielmino, Dipartimento di Protezione delle Piante, Università della Tuscia, Viterbo. - **Paratypes:** 6MM, 13FF, from same locality and data, Guglielmino & Bückle leg., in coll. Guglielmino; Abruzzo, M.te Velino - cime a Nord di Piano di Mezzo (L'Aquila), ~1800m, 13/8/1998, 1M, pascolo, Guglielmino & Bückle leg., in coll. Guglielmino; Monti della Laga, near to S. Egidio, 1700m, 10/IX/1977, 1F macr., Remane leg., in coll. Remane, FB Biologie Universität Marburg.

Geographic distribution: So far known only from Appennine Peninsula. It might be an endemic taxon of this region.

Biology: Adults were collected in August on Cyperaceae in meadows of high altitude (1800-2200 m). Immature stages, number of yearly generation and the overwintering stage are unknown. Specimens of *K. italica* were found together with adults of *K. monoceros* Ribaut.

Discussion: The new species is easily distinguished from *K. guttula* (Germar) sensu Wagner and *K. sima* Ribaut by the shape of the male genital segment (lobuliform projection!) and the lack of the aedeagal lamella (present and ending in a "step" in *K. guttula* (Germar) sensu Wagner and *K. sima* Ribaut). From *K. irregulata* Haupt, it is in addition distinguished by its smaller size, the bigger spot on the genae and the male genital morphology. From *K. vittipennis* J. Sahlberg, a taxon showing a similar, but more triangular projection at the caudal margin of its genital segment, it is distinguished by the bigger spot on the genae, the lack of dark markings on the pronotum (in *K. vittipennis* J. Sahlberg the sublateral stripe is not interrupted and also present in a more or less long part of the fore wing) and by the shape of the aedeagus, which in *K. vittipennis* J. Sahlberg has a serrated lamella in its central part (similar to that of *K. irregulata* Haupt).

Zusammenfassung

Untersuchungen der Artengruppe um *Kelisia guttula* (Germar) sensu Wagner in den vergangenen Jahren haben gezeigt, dass die Zahl der Arten in dieser Gruppe deutlich höher ist, als noch vor einiger Zeit angenommen: Exemplare aus den zentralitalienischen Gebirgen des Appennin (Monte Terminillo, Monte Velino, Monti della Laga) glichen zwar in Grösse, Proportionen, Färbung und Zeichnung *K. guttula* (Germar) sensu Wagner, zeigten aber sowohl bei den Männchen als auch bei den

Weibchen so stark abweichend gebaute Genitalstrukturen (Männchen mit zungenförmigem Vorsprung am oberen Hinterrand des Genitalsegment, Aedeagus ohne stufenförmig endende Lamelle; Weibchen in der inneren ektodermalen Genitalarmatur mit sehr langem, im Basalbereich sehr weiten und stark chitinierten "Führungsrohr" für der Aedeagus bei der Kopulation), dass hier mit hoher Wahrscheinlichkeit eine eigenständige Fortpflanzungsgemeinschaft angenommen werden muss, zumal *K. guttula* ebenfalls in Mittelitalien vorkommt. Dieses - möglicherweise in Zentral-Italien endemische - Taxon wird daher als *Kelisia italica* nov. spec. beschrieben (Typus-Fundort: Italien, Lazio, Monte Terminillo (Rieti)).

Riassunto

Una nuova specie del genere *Kelisia*: *Kelisia italica*, rinvenuta ad alte quote in due regioni montuose dell'Italia centrale (Monte Terminillo, Monte Velino) viene descritta. Essa è strettamente correlata a *K. guttula* (Germar) sensu Wagner e *K. sima* Ribaut, ma si distingue facilmente da queste per la forma del segmento genitale maschile e per l'edeago privo di lamella. Inoltre, *K. italica* differisce da *K. vittipennis* J. Sahlberg per la presenza sulle genae di una macchia più estesa, la mancanza di macchie scure tra gli occhi, sul pronoto e sullo scuto e la forma dell'edeago, e da *K. irregulata* Haupt per le dimensioni più piccole, la macchia più estesa sulle genae e la morfologia dei genitali maschili. Infine, le femmine di *K. italica* si distinguono facilmente da quelle delle altre specie del gruppo *K. guttula* perchè presentano genitali con la parte basale del "dotto edeagale" molto larga.

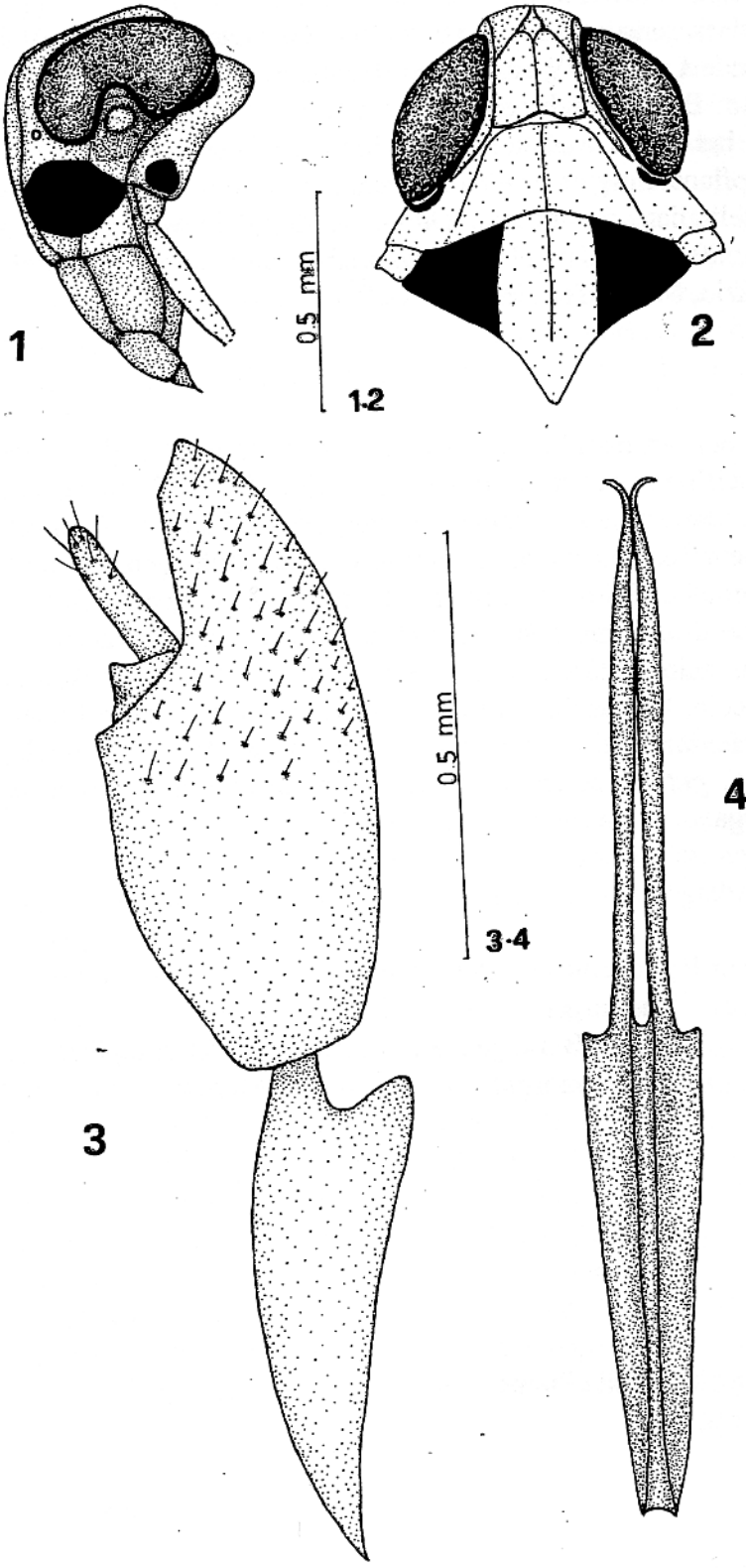
Literature

- ASCHE, M., 1985: Zur Phylogenie der Delphacidae LEACH, 1815 (Homoptera, Cicadina, Fulgoromorpha). - Marburger Ent. Publ., 2 (1): 1-910.
- REMANE, R. & JUNG, R., 1995: Beiträge zum Artenbestand der europäischen Kelisiinen (Auchenorrhyncha, Fulgoromorpha, Delphacidae) - Marburger Ent. Publ. 2 (9): 1-70.

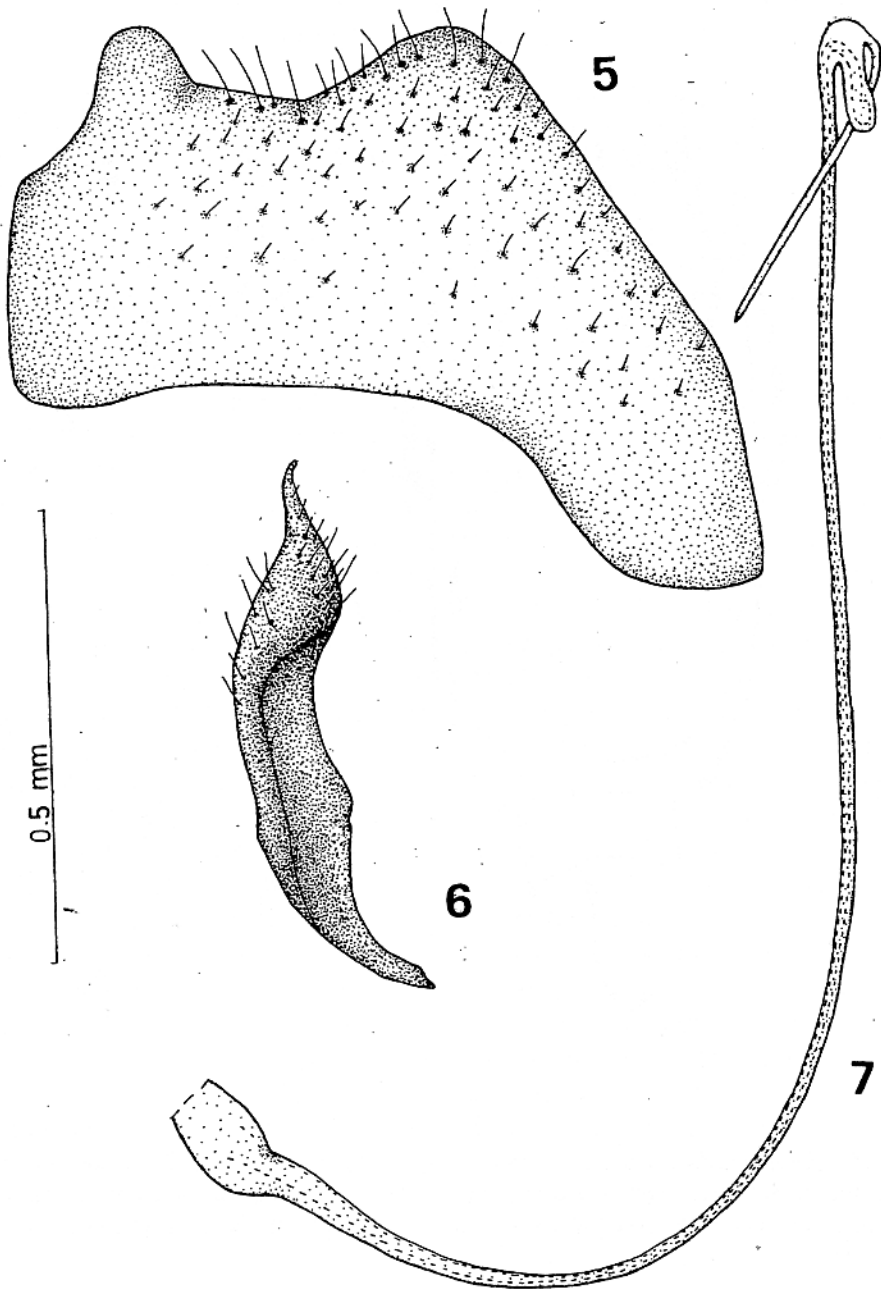
Author's address:

Dr. A. Guglielmino
Dipartimento di Protezione delle Piante,
Università della Tuscia,
01100 Viterbo
Italy

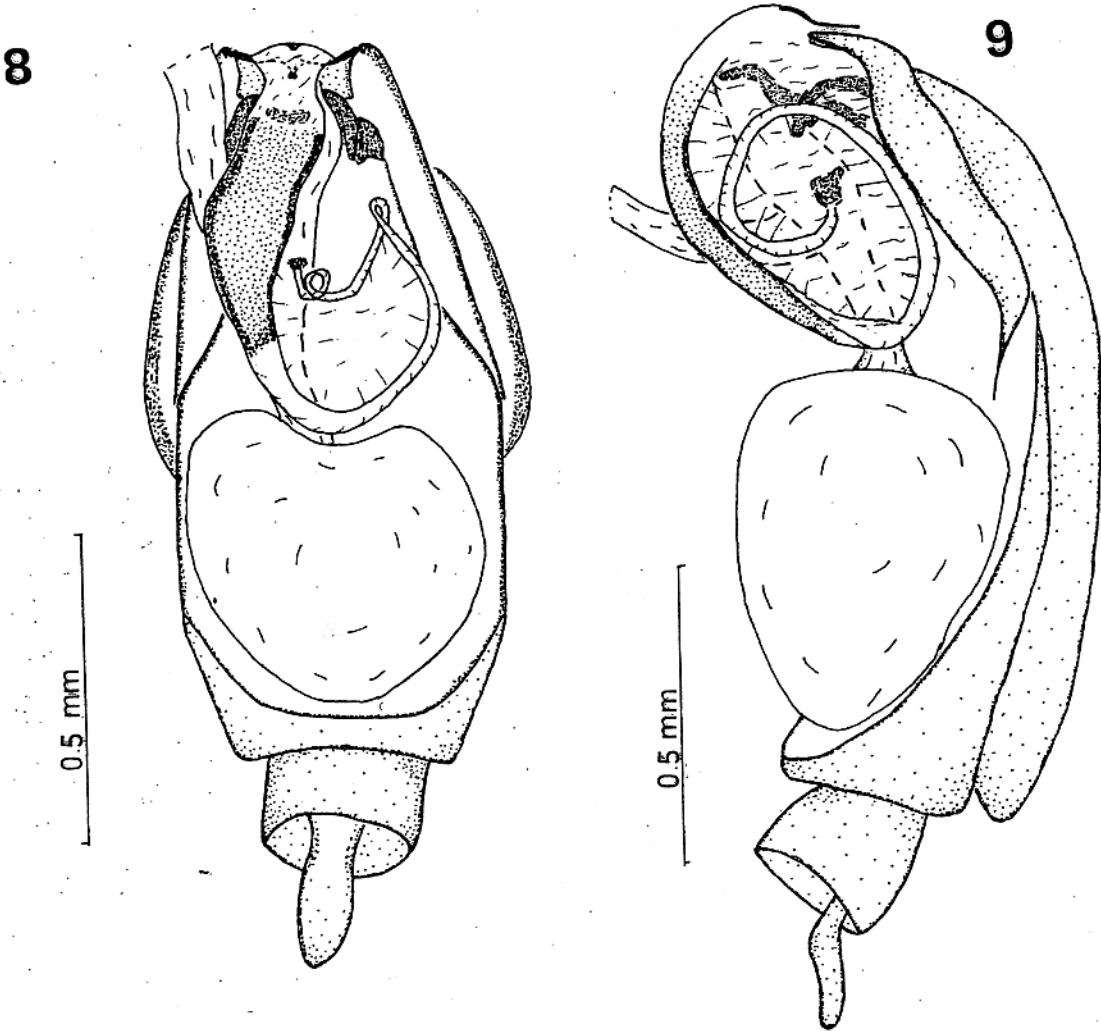
Prof. Dr. R. Remane
Fachbereich Biologie (Zoologie)
Der Philipps Universität Marburg
Lahnberge, Karl v. Frisch Str.
D-35032 Marburg
Germany



Figs 1-4 - *Kelisia italica* n. sp. Male (Paratype from Lazio: M.te Terminillo (Rieti)): 1. Head and thorax, left lateral view; 2. Head, pronotum and mesonotum, dorsal view; 3. Anal tube, left lateral view; 4. Subanal-processes, ventral view. Scale = 0.5 mm.



Figs 5-7 - *Kelisia italica* n. sp. Male (Paratype of same locality and date as above): 5. Pygofer, lateral view; 6. Aedeagus, right lateral view; 7. Style, right lateral view. Scale = 0.5 mm.



Figs 8, 9 - *Kelisia italica* n. sp. Females [Paratypes of same locality and date as above]: Ectodermal genitalia: 8. Female₁: dorsal view (tergites and some of the sternites removed, oviduct: only basal part indicated, distal part and spermatheca not shown); 9: Female₂: lateral view (as in Fig. 8). Scale = 0.5 mm.