

Description of *Platymetopius melongicornis*, new species of *P. undatus*-group, with some remarks on taxonomic questions in west-palaearctic *Platymetopius* Burmeister, 1838 (Auchenorrhyncha, Cicadellidae)¹

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Abstract: *Platymetopius melongicornis* n. sp. is described from several countries of southern Europe (Spain, Portugal, France, Italy, Greece, type locality: Villefranche-sur mèr in France, Dépt. Alpes Maritimes). It is distinguishable from the very similar *P. major* (Kbm.) by the structure of the male genitalia (aedeagus with a pair of very long but simple apical appendages and a pair of rather short and thin basal appendages, shape and proportions of the pygofer appendages, shape of the styli). Its area of distribution overlaps largely with that of several other taxa of this group, including *P. major* (Kbm.).

Recent publications on *Platymetopius* have shown the existence of much more taxa than expected in former times, especially in the Near East and in the Mediterranean region. Many of these taxa are very similar in appearance (colour, markings, size) and may be separated only by structures of the male and female genitalia. This is by no means extraordinary in Cicadellidae (and many other groups) – but in many species-groups of *Platymetopius* the situation is more difficult due to a “gradual change” in the structure of the male genitalia from one locality to another which renders it very difficult to decide, how many species are involved. For this reason, in order to obtain reliable results, a rather large number of specimens from as many localities as possible should be available for examination. In addition, there should be figured as many details as possible when describing or discussing *Platymetopius*-taxa, and these figures ought to be reliably correct. Unfortunately many descriptions of new *Platymetopius*-“species” do not meet this standard (e. g. those of Dlabola), and this renders rather difficult the progress of research in these groups.

In several countries of the Mediterranean area there has been collected a number of specimens of a new species of *Platymetopius*:

Platymetopius melongicornis n. sp.

This taxon is a member of the *P. undatus*-group, which is characterized by a special apomorphic configuration of its male genital structure, and in addition by special coloration and markings. Several new taxa were described in this group during the past 40 years (DLABOLA 1958, 1961, 1980, LINNAVUORI 1962, EMELJANOV 1964, ABDUL-NOUR 1987, GUGLIELMINO 1989, 2002) from the western part of the Palaearctic region.

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Description: In size, proportions, colour and marking, *Platymetopius melongicornis* n. sp. is very similar to *P. major* (Kbm). It is a "big" species with rather long and acute-angled vertex (Fig. 1), longer in females than in "healthy" males, in some specimens even longer than the vertex of *P. major* (Kbm).

The main difference to other taxa of this group is to be found in the structure of male genitalia: The aedeagus (Figs 2, 3, 4) is very characteristic by its small, short and thin basal pair of appendages and very long (but simple and not bifurcated as in *P. cebifurcatus* Guglielmino) apical pair of appendages. The pygofer-appendages (Figs 5, 6), are similar to those of *P. major* (Kbm) (Fig. 7): The "lamelle" at their medioventral side is present only in form of a small, always triangular piece, but the general size of the whole appendage is shorter than in *P. major* (Kbm), especially the part "distal of the lamelle" is very short and rather straight (especially in relation to the part basally of it: it has less than half the length of the "lamelliferous" part down to the basal bend - In *P. major* (Kbm) it has distinctly more than half the length). The apophyse of the styli (Fig. 9) is distinctly shorter and less broadened than that of *P. major* (Kbm), by this it more resembles that of other taxa of this group than that of *P. major* (Kbm). The remaining parts of the male genital structure (sternite IX, subgenital plates, anal tube) do not differ significantly from those of *P. major* (Kbm) and other taxa of this group.

Due to the fact, that in all localities from which we have seen males of *P. melongicornis* there possibly exist other species of this group, the association of females is somewhat tentative until a pair has been caught during copulation or the progeny of a single female has been bred. In the females which we consider to be *P. melongicornis* n. sp. the caudal margin of sternite VII (Fig. 11) looks somewhat "intermediate" between the rather shallow, but rather laterally situated incisions separating the "central complex" with large "teeth" of *P. major* (Kbm) and the rather deep, but more medially situated incisions and the slender "teeth" of *P. undatus* De Geer.

Measurements: Males. Body length (from the vertex to the tip of fore wings): 4.7-5.6mm (Holotypus: 5.4mm); width of the head including the eyes: 1.25-1.40mm (Holotypus: 1.38mm); width of vertex: 0.55-0.67mm (Holotypus: 0.65mm); length of vertex: 0.64-0.70mm (Holotypus: 0.70mm); length of pronotum: 0.60-0.70mm (Holotypus: 0.64mm); width of pronotum: 1.22-1.48mm (Holotypus: 1.37mm). Females. Body length (from the vertex to the tip of fore wings): $\pm$ 6.3mm; width of the head including the eyes: $\pm$ 1.54mm; width of vertex: $\pm$ 0.74mm; length of vertex: $\pm$ 0.93mm; length of pronotum: $\pm$ 0.72mm; width of pronotum: $\pm$ 1.53mm.

Type series: Holotypus Male: France, D  pt. (06) Alpes maritimes, C  te d'Azur, Villefranche s. M., 20/IX/1971, Mont Alban, (M "nr 2"), (leg. R. Remane, in coll. R. Remane, F.B.Biologie d. Philipps-Univ. Marburg). - Paratypes: same data as Holotypus, 1M (M "nr1"). - D  pt. (66) Pyren. orient., sw. Le Tech, ca. 600m, 28/V/1963, 1M (leg. et coll. Remane) - Spain: Andalusia, Prov. Cadiz, Sierra de la Luna, w. Algeciras, ca. 300m, 23/VIII/1972, 1M (leg. et coll. Remane); nw. supra Grazalema, ca. 1300m, 20/VIII/1992, 1M (leg. et coll. Remane); Prov. Malaga, sw. Gaucin, ca. 800m, 23/VIII/1972, 1M (leg. et coll. Remane); Prov. Teruel, Sierra de Albarracin, supra Noguera, ca. 1600m, 14/VIII/1972, 1M, (leg. et coll. Remane); Prov. Leon, Cordillera Cantabrica, east of Ria  o, ca. 950m, 30/VII/1972, 1M (leg. et coll. Remane) - Portugal: Prov. Santarem, s. Santana de Mato, 8/IX/1985, 1M (leg. et coll. Remane) - Italy: Liguria, Prov. Imperia, Triora, IX/1924, 1M, Mancini leg., in Museo Civico di Storia Naturale "G. Doria" Genova. - Greece: Nomos Florina, Kalo-Nero-mountains, Hagia Triada, n. supra Antartikon, ca. 1500m, 5/IX/1975, 1M (leg. et coll. Remane);

Mikrolimni, ca. 800m, 9/IX/1975, 1M (leg. et coll. Remane). - Females, which we assume to belong this species, were collected - besides of other localities - in France, Dèpt. (06) Alpes maritimes, at the type locality, 25/IX/1969, 2FF.

Geographic distribution: *P. melongicornis* n. sp. apparently is widely distributed in the northern part of the Mediterranean subregion - it has so far been found from the southern end of the Iberian Peninsula (where it seems to live from south to north, from east to west: Portugal) through France and Italy to northwestern Greece. Whether this area is continuous or split up into several parts has to be shown by further research. The altitude of the places where it has been found up to now varies between "nearly sea-level" (Villefranche-sur-mèr) up to more than 1600 m (Sierra de Albarracin in Spain).

Ecology: The specimens were captured in mediterranean as well as in submontaneous vegetation on shrubs and lower trees (*Crataegus*, *Quercus* f.i.). Nothing is known about the host plants of the juvenile instars.

Discussion: *P. melongicornis* n. sp. is clearly distinguishable from all other taxa of the *P. undatus-major*-group known to us by the peculiar structure of its male genitalia (long, but simple pair of apical aedeagus-appendages, rather short and thin basal pair). Even from *P. major* (Kbm), to which it is most similar in appearance and form of the pygofer appendages, it differs clearly by the shape and proportions of these appendages. In addition, there seems to be - in spite of the great distance of the localities where it has been found - no obvious variation in the shape of the male genital structures. Its geographic distribution overlaps widely not only with that of several other taxa of this group (for instance with *P. cebifurcatus* Guglielmino in the French Alpes Maritimes and in the Ligurian Apennine in Italy), but also with that of *P. major* (Kbm) in wide parts of the Iberian Peninsula and elsewhere - so it is not a (geographic) subspecies of *P. major* (Kbm), but very probably a genetic unit, i.e. species, of its own.

Zusammenfassung

Untersuchungen der vergangenen Jahre haben ergeben, dass die vermutlich ein Monophylum bildende Gruppe von Arten um *Platymetopius undatus* (DeGeer)-*P. major* (Kbm) noch weitere, einander in Gestalt, Färbung und Zeichnung sehr ähnliche, im Bau der Genitalarmatur mindestens der Männchen aber konstant verschiedene Taxa enthält. Hier wird ein weiteres derartiges, offenbar bisher übersehen gewesenes Taxon dieser Gruppe beschrieben: *Platymetopius melongicornis* nov. spec.. Im Habitus sehr ähnlich *P. major* (Kbm), unterscheidet sie sich von dieser durch lange, aber nicht gegabelte Endfortsätze und relativ kurze und dünne Basalfortsätze des Aedeagus sowie durch einen relativ deutlich kürzeren Distalteil der Pygophor-Seitenlappen Anhänge. Die Art scheint in den Gebieten nördlich des Mittelmeeres weit verbreitet zu sein: sie wurde bisher in Spanien (sowohl im äussersten Süden als auch in der Mitte und im Norden), in Portugal, in Südfrankreich (Côte d'Azur, Seealpen, Typus-Fundort Villefranche-sur-Mer, Mont Alban; dazu Ostpyrenäen), in Italien (Ligurien) sowie in Nordwest-Griechenland (Nomos Florina) gefunden. An mehreren dieser Fundorte lebten weitere Arten derselben Artengruppe.

Riassunto

Una nuova specie del gruppo *Platymetopius undatus*: *P. melongicornis* è descritta da diverse regioni dell'Europa meridionale. *P. melongicornis* n. sp. si distingue facilmente dalle altre specie del "gruppo *undatus*" per la struttura dei genitali maschili (edeago con un paio di appendici apicali molto lunghe e semplici ed un paio di appendici basali abbastanza corte e sottili, forma e proporzioni delle appendici del pigoforo, forma degli stili). La sua area di distribuzione si sovrappone largamente con quella di diversi taxa di questo gruppo.

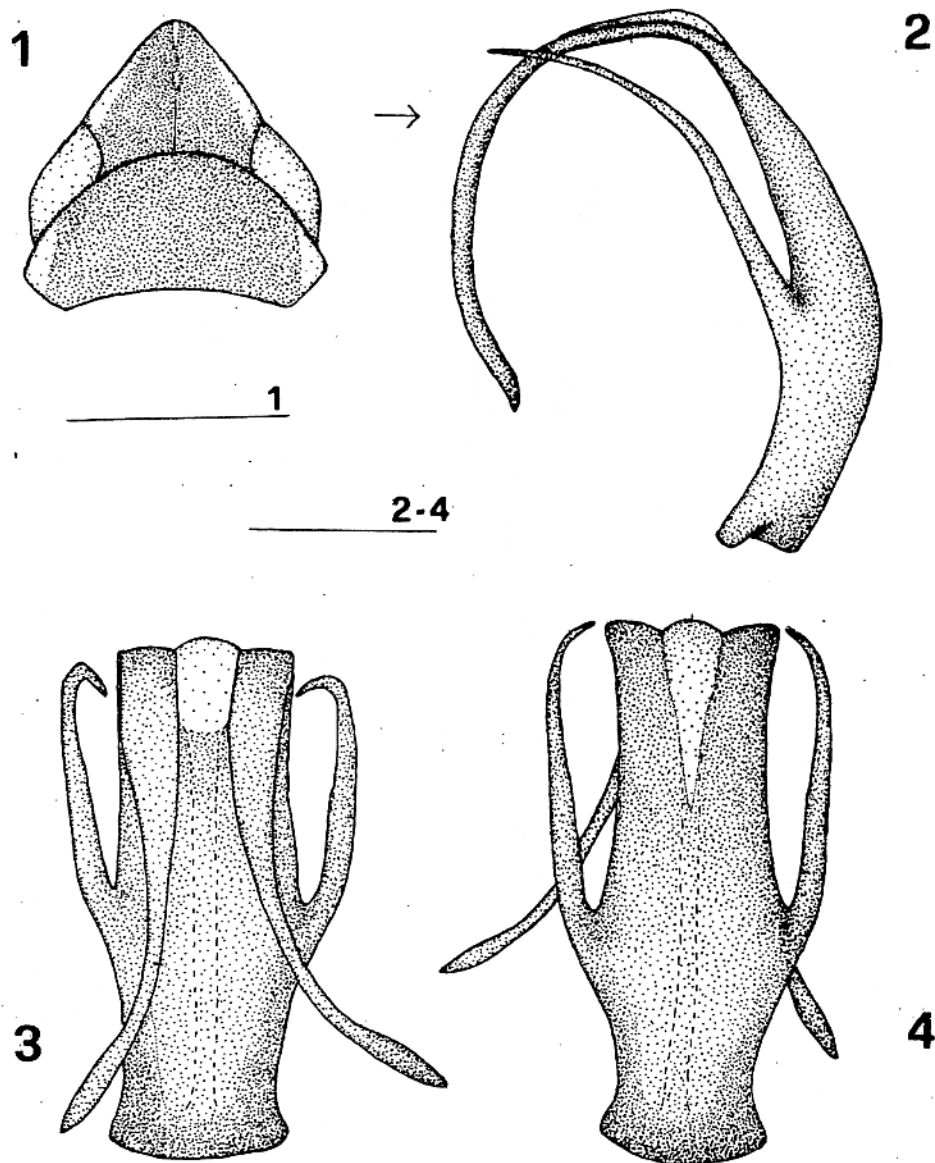
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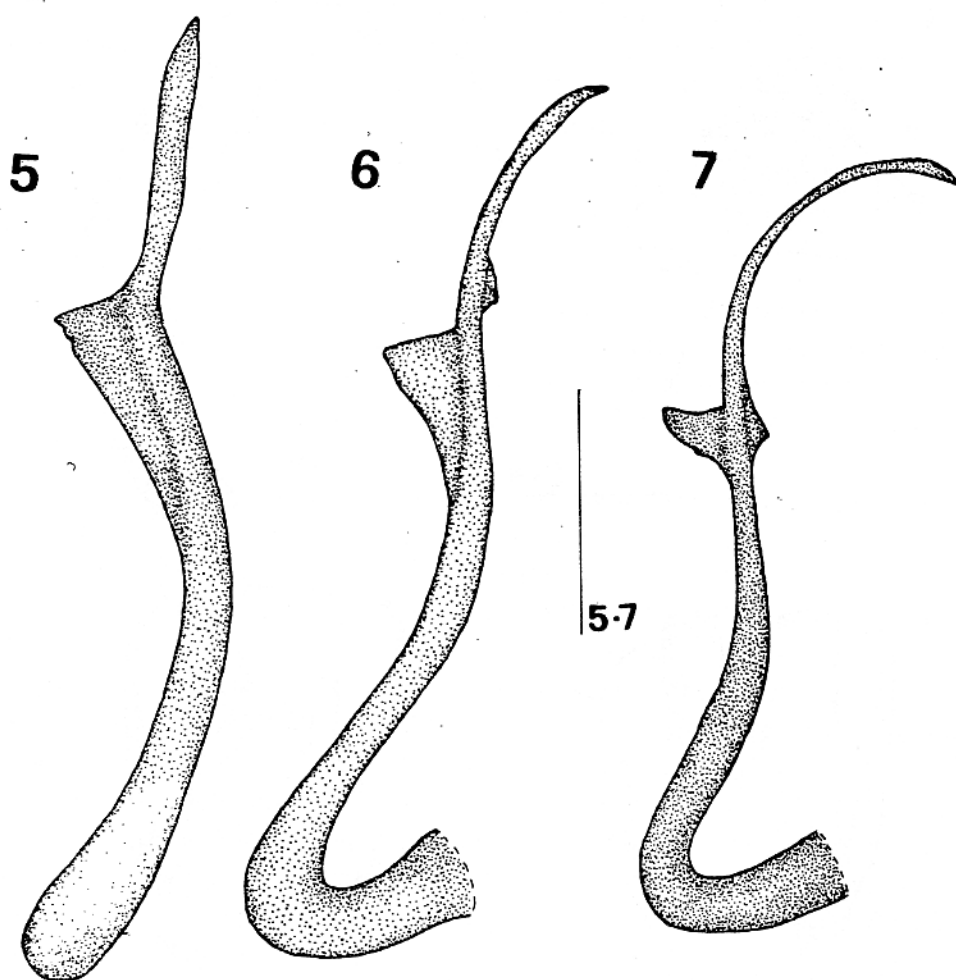
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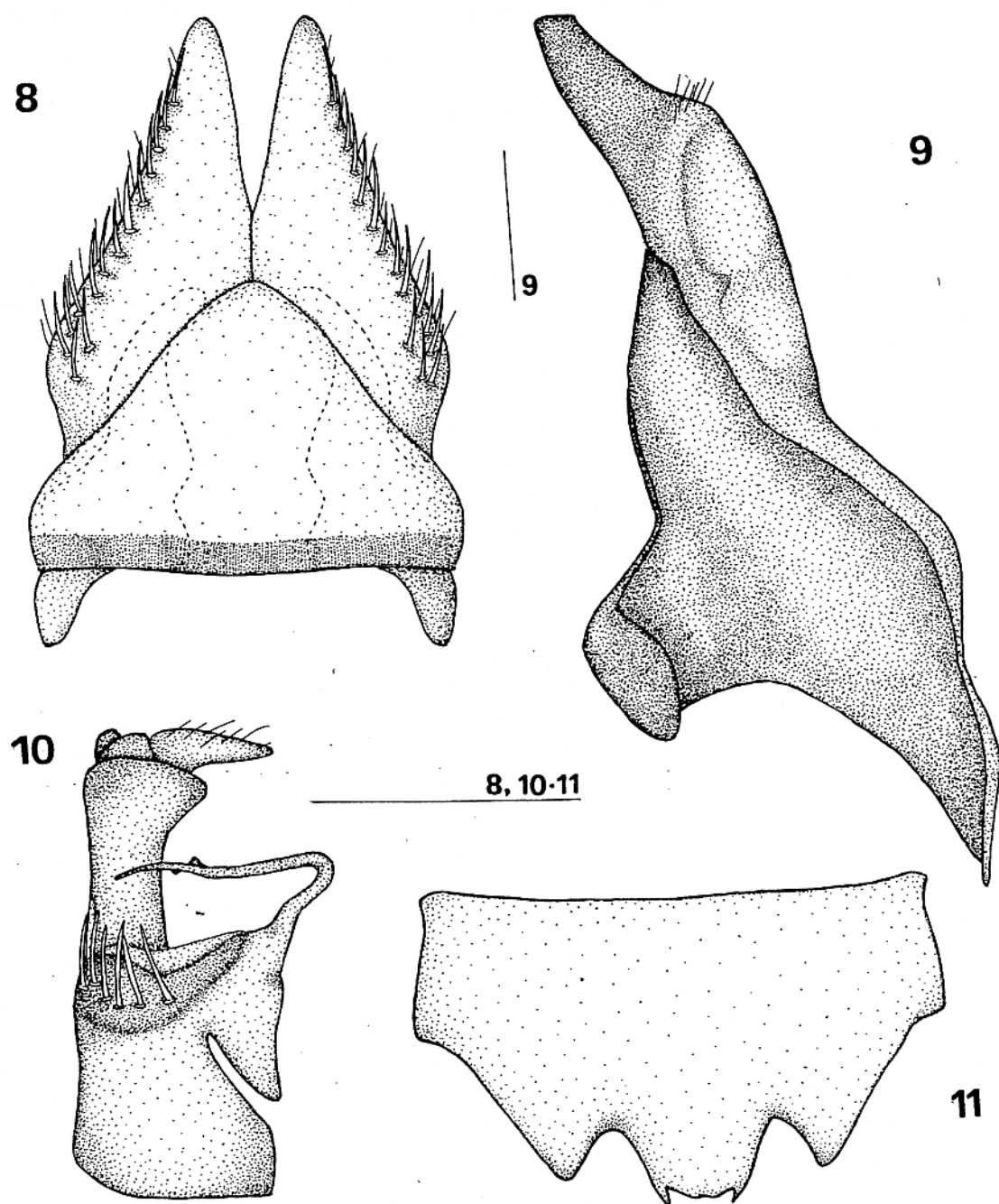
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Figs 1-4. *Platymetopius melongicornis* n. sp. Male (Paratype from Triora, Liguria-Italy): 1: Head and pronotum. Scale: 1 mm; 2: aedeagus, lateral view. Scale: 0.1 mm; 3: aedeagus as seen in direction of the arrow. Scale: 0.1 mm; 4: aedeagus, posterior view. Scale: 0.1 mm.



Figs 5-7. *Platymetopius melongicornis* n. sp. Male (Paratype from Triora, Liguria-Italy): 5: appendage of right pygofer lobe, posterior view. Scale: 0.1 mm; 6: appendage of right pygofer lobe, lateral view. Scale: 0.1 mm; *Platymetopius major* (Kbm.) (specimen from Lago di Alviano, Lazio-Italy): 7: appendage of right pygofer lobe, lateral view. Scale: 0.1 mm.



Figs. 8-11. *Platymetopius melongicornis* n. sp. Male (Paratype from Triora, Liguria-Italy): 8: genital valve and plates, ventral view. Scale: 0.5 mm; 9: left genital style, dorsal view. Scale: 0.1 mm; 10: pygofer and anal apparatus, lateral view. Scale 0.5 mm; *Platymetopius melongicornis* n. sp. Female (specimen from Col de Braus, Alpes Maritimes-France): 11: 7th abdominal sternite, ventral view. Scale 0.5 mm.