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The genus *Belomicrus* A. Costa, 1871 in the Iberian Peninsula.

(Hymenoptera, Sphecidae, Crabroninae)

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Abstract

A new species, *Belomicrus gataensis* sp.n., from southern Spain is described and compared with the similar species of this genus. Morphological and taxonomical aspects and geographical distribution are commented for the other three species of *Belomicrus* A. Costa, 1871 that have been found in the Iberian Peninsula: *B. italicus* A. Costa, *B. odonthophorus* (Kohl) and *B. steckii* Kohl.

Introduction

Belomicrus A. Costa , 1871 is a genus of crabronine wasps within the tribe Oxybelini that occurs in the Holarctic and Ethiopian Regions. Bohart & Menke (1976) listed 63 species: 25 Nearctic, 12 Ethiopian and 26 Palaearctic, to which should be added: 14 from North America (Bohart 1994); 8 from the Old World (Guichard 1991), and 30 from Asia (Antropov 1993, 1995a, 1995b; Kazenas 1993, 1995; Kazenas & Antropov 1994a, 1994b).

In the Iberian Peninsula, the review of the Oxybelini carried out by Mingo (1966) deserves special mention. Three species of *Belomicrus* are cited: *B. italicus* Costa , 1871, *B. caesariensis* (= *B. odontophorus* (Kohl, 1892)), and *B. steckii* Kohl, 1923. Despite the many works on Iberian sphecids published since, no new species of *Belomicrus* have been described (Leclercq 1993; Bitsch & Leclercq 1993).

For several years sphecidological material of different origin was examined with a view to compiling a monograph on the family within the framework of the "Fauna Iberica" project. Study of a female from the Cabo de Gata (Almería province), has allowed the authors to conclude that it belongs to a new species: *Belomicrus gataensis* sp.n.

Belomicrus gataensis sp.n.
(Figs 1-4)

Diagnosis. The species exhibits the following diagnostic characters: well-developed genae, metanotal squamae broad, joined at centre and propodeal mucro widened at apex. Other characters, such as a strong development of the mesopleuron, shape and sculpture of pygidial plate and punctation of body, allow a clear differentiation of this from other similar species.

Description. Female (Holotypus) (Fig. 1).– Length.– 5 mm. Head subrounded, with inner orbits slightly convergent towards clypeus (Fig. 2); median lobe of clypeus with convex, smooth and shiny subtriangular area; free margin of clypeus with inconspicous medial process, almost straight; frons slightly convex on sides of shallow medial sulcus, with well-defined and regular punctation; punctures less than one diameter apart; genae well-developed dorsally, without tubercles; vertex with compressed punctation.

Pronotal collar ecarinate and rounded laterally, with profuse punctation and longitudinal median sulcus; dull scutum with well-defined punctation, more profuse on anterior and posterior margins; scutellum with punctures compressed against each other; episternal sulcus, hypersternaulus and process on precoxal area present; mesopleuron with punctures of two diameters: larger on prepectus and finer on rest of mesopleuron, all punctures compressed, forming more or less defined longitudinal ridges; me-

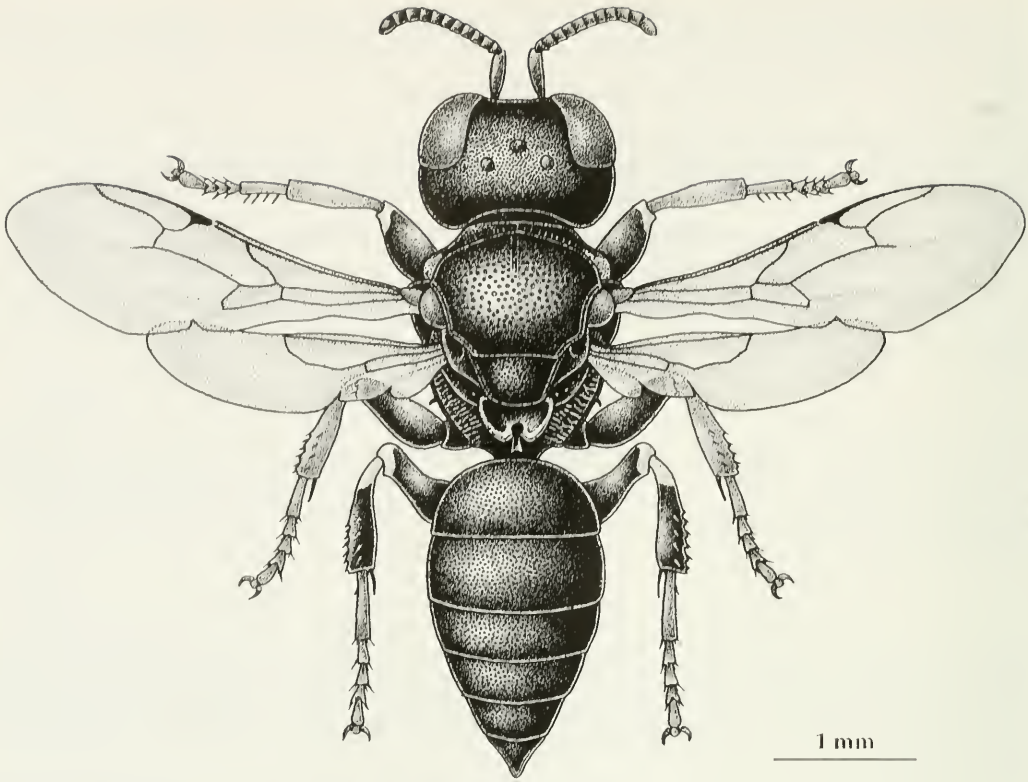


Fig. 1: *Belomicrus galaensis* sp.n., female, holotype, general aspect.

tapleuron and propodeal sides with longitudinal carinae. Metanotal squamae wide and translucents (except margins), separated by a small circular space. Propodeal mucro widened and notched at apex (Fig. 3). Gastral dorsum with profuse punctation, punctures larger on tergum I; the punctation becomes finer towards gastral apex. Pygidial plate subtriangular, with well-defined punctation (Fig.4).

Vestiture. Setae silvery, developed mainly on clypeal lateral lobes and the ventral half of frons. Other body setae inconspicuous, principally on scutum and gaster.

Colouring. Body black, except mandibles (ferrugineous apex), posterior face of scape, a small apical spot on posterior face of femora I, pronotal lobes, and margins on metanotal squamae, ivory white. The following are yellowish-ferrugineous: antennal flagellum ventrally, tibiae and tarsi I-II, and posterior third of pygidial plate. Tibiae and tarsi III reddish-dark.

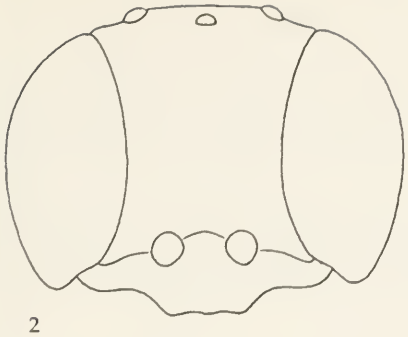
Male. Unknown

Etymology. The name refers to the locality where the holotype was collected.

Material examined. Holotype: female, SPAIN: Almería Province: Cabo de Gata, 27-V-1986, collected on *Sonchus tenerrimus* L.-Asteraceae (Compositae), J.Herrera leg.; deposited in the Unidad de Zoología (Universidad de Salamanca-Spain).

Belomicrus italicus A. Costa, 1871
(Figs. 5-7)

This species gives the name to the species group to which it belongs, defined by: basal process of lower face of mandibles absent or weakly developed; broad metanotal squamae joining to form a plate, more or less notched on posterocentral part (where propodeal mucro is located), and a reduction in whitish colouring; in some species tubercles are differentiated on upper part of genae.



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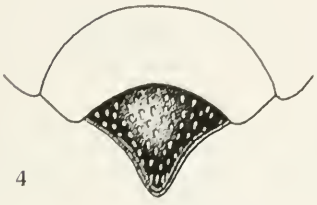

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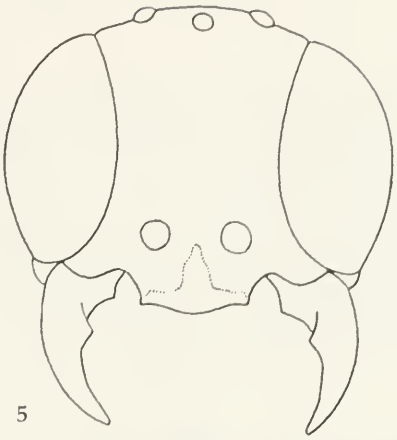

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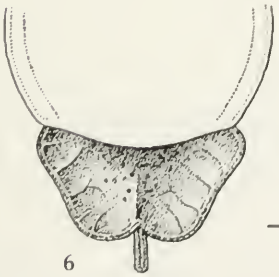

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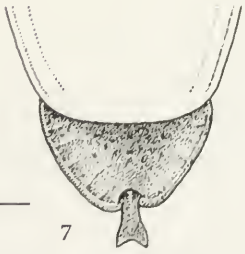

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Figs 2-4: *Belomicrus gataensis* sp.n., 2. Head in front view. 3. Metanotal squamae and propodeal mucro. 4. Pygidial plate.
Figs 5-7: *Belomicrus italicus* A. Costa. 5. Head in front view. 6. Metanotal squamae of a specimen from Europe. 7. Metanotal squamae of a specimen from Tunisia.

B. italicus is characterized by having median lobe of clypeus with triangular-shaped smooth shiny zone (Fig. 5) and metanotal squamae broadly joined in the median line (Figs. 6 and 7). Specimens show a certain variability in the shape of these characters and in sculpture, mainly in punctation.

Distribution. Mediterranean Area. The species is localized on the Iberian Peninsula and is known only from Barcelona and Málaga (Spain); Estoril and S. Joao de Estoril (Portugal) (Mingo 1966; Leclercq 1993).

Belomicrus odontophorus (Kohl, 1892)
(Figs. 8-9)

Guichard (1991) confirmed that this is the palearctic species of *Belomicrus* that shows the greatest variability; such variability is seen in many characters, both in morphology and in colouring. This author also confirmed that *B. caesariensis* and its three subespecies (Beaumont 1957, 1958) are synonymous with the species in question.

Figures 8 and 9 show the clypeus, metanotal squamae and propodeal mucro in Iberian specimens.

Distribution. Iberian Peninsula, Morocco, Algiers, Tunisia, and Turkey. In view of the data available, this would be a species well represented in sandy biotopes of the Peninsula, in both Spain and Portugal. The northermost reference corresponds to the Burgos province (Gayubo & Sanza 1986).

Belomicrus steckii Kohl, 1923
(Figs. 10-13)

The diagnostic characters of this species are: mandibles with prominent basal process (Fig. 10); smoth area of median lobe of clypeus broad and rectangular in shape (Fig. 11); carinae of mesopleuron well developed; femur III strongly curved on apex; metanotal squamae well developed (Fig. 12), leaving a space on median line on which propodeal mucro is located. The latter is translucent and curved backwards (Fig. 13). Gaster with reddish colouring.

Distribution. As reported by Bitsch & Leclercq (1993), although the type came from "Gallia mer. 1897", this species has no longer been reported from France. On the Iberian Peninsula, it is represented by the nominotypical subspecies and in Morocco by the subspecies *B. steckii maroccanus* Beaumont, 1956. Specimens of this species are frequent both in sandy biotopes on coastal areas (Torregrosa et al. 1993) and in montainous zones at more than 1600 m. (Gayubo 1982).

Discussion

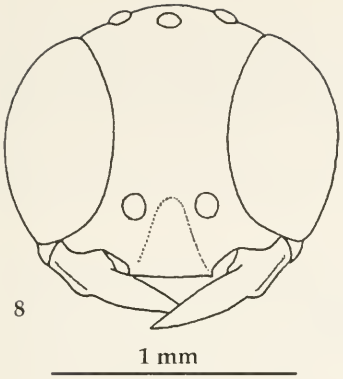
The genus *Belomicrus* displays strong morphological variability, thus hindering the establishment of species groups. In this sense, Kohl (1923, 1924) included some species within the subgenera *Oxybeloides* Radoszkowski, 1977 and *Oxybelomorpha* Brauns, 1896, which were considered by Pate (1940 a) as synonymous of *Belomicrus*, like the subgenera *Pseudoxybelus* Gussakovskij, 1933 and *Nototis* Arnold, 1927.

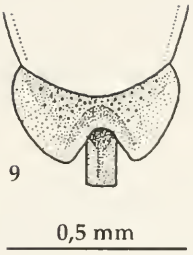
For the nearctic species, Pate (1940 b) established ten groups, later reduced to two by Bohart & Menke (1976); one of them (*forbesii* Robertson) was further subdivided into four by Bohart (1994) taking into account the 14 new species described by this author.

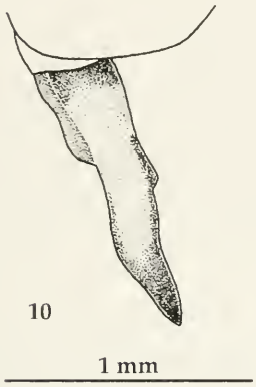
Guichard (1991), in a review from the Old World, does not consider species groups and it was the Russian authors A. Antropov and V.L. Kazenas who reconsidered groups on describing a high number of species (thirty) from Asia. Thus, Antropov (1993) and Kazenas (1993) mention the species groups: *italicus* A. Costa (=*Belomicrus* s. str.) and *radoszkowskii* Dalla Torre, 1897 (=*Oxybeloides*). In two later papers (Kazenas & Antropov 1994a, 1994b) they consider three species groups: *italicus* A. Costa, *radoszkowskii* Dalla Torre, 1897, and *kohlii* Brauns, 1896. In turn, this latter group was subdivided by Antropov (1995 b) into two on separating species showing a developed complex of carinae on the mesopleuron (junction of postspiracular carina, omaulus, sternaulus and precoxal carina) from those lacking this, for which the author used the name *schulthessii* Kohl, 1923.

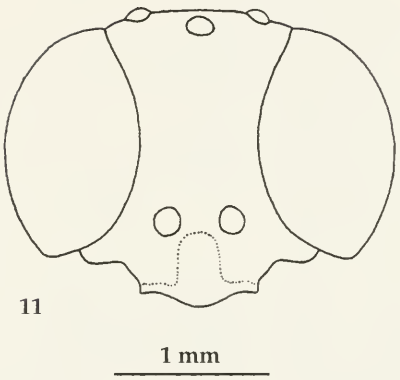
Of the four species present on the Iberian Peninsula, *B. italicus* belongs to the group that gives the name. *B. odonthophorus* should also be included in this group, although owing to the characteristics of this species (among which flattened mesonotal squamae are outstanding) it could form an independent species-group which would also include some Asian and African species (such as *B.minimus* Gussakovskij, *B.otomanus* Guichard and *B.dimorpha* Guichard). The same could be said of *B.steckii*, a species that would be the only representative of the species group *steckii* (Antropov, pers. com.).

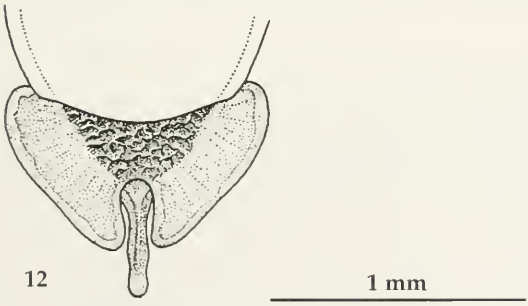
B. gataensis sp.n. displays a set of characters that do not permit its assignation to any currently defined species group. Thus, the absence of a distinct complex of ridges on the mesopleuron relates it to the *schultessii* group, whereas the shape of metanotal squamae relates it to the *funestus* group. The other characters do not permit its inclusion in either group. Currently, A.V. Antropov is compiling a palaearctic

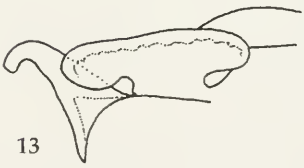












Figs 8-9: *Belomicrus odontophorus* (Kohl). 8. Head in front view. 9. Metanotal squamae and propodeal mucro. Figs 10-13: *Belomicrus steckii* Kohl. 10. Mandible, lateral margin. 11. Head in front view. 12-13. Metanotal squamae and propodeal mucro (dorsal and lateral views).

revision of the genus *Belomicrus*, which should allow a redefinition of currently known species groups as well as the creation of others. When this revision has been completed, it will be possible to assign *B. gataensis* to a concrete species group.

In any case, the very characteristic shape of the metanotal squamae and of the propodeal mucro (Fig. 3),the rounded pronotal collar, the developed mesopleuron (lacking the complex of ridges), the sculpture of the whole of the body (with a strong profuse punctation) together with the absence of tubercles on the upper part of the genae, allows to be separated this species from similar ones.

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