

Species of *Elasmus* Westwood, 1833 (Hym., Chalcidoidea, Elasmidae) found in the Iberian peninsula

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Species of Elasmus Westwood, 1833 (Hym., Chalcidoidea, Elasmidae) found in the Iberian peninsula.— *Species of the genus Elasmus*, collected at several localities in Portugal, Spain and Andorra, have been studied. Thirteen of the 23 known European species were found. Although not a rare group, this is the first record of species belonging to this genus in Spain and Andorra (only Ceballos [1941-43] mentioned this genus in the Iberian peninsula but not any concrete species); all of the species are also new records for Portugal except *E. platyedrae* and *E. steffani*. Intraspecific variation observed in the material and not mentioned in previous studies is also examined.

Key words: *Elasmus*, faunistic, Iberian peninsula.

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Introduction

The family Elasmidae, with a world-wide distribution, comprises two genera, *Elasmus* Westwood, 1833 and *Euryschia* Riley, 1889, and more than 100 species. The genus *Elasmus* contains 23 species in Europe (GRAHAM, 1995). CEBALLOS (1941-43) lists the

genus as occurring in Spain but does not record any species.

The most important morphological features of this genus are long narrow forewings with almost parallel edges, long marginal vein but short or absent radial vein, male antennae branched, enlarged and almost discoidal flattened hind coxae, and long

four-segmented tarsi. The species included here have a characteristic setal pattern on the outer surface of the hind tibiae.

Elasmus species are parasitoids of larvae of Diptera and Hymenoptera, and of the cocoons of some small Lepidoptera.

Material and methods

Most specimens were captured between 1992 and 1995, in several localities on the Iberian peninsula. A few others are in the Natural History Museum (London) and in Askew's collection.

Specimens were collected with a Malaise trap at Pina de Ebro (Zaragoza, Spain) and Santa Coloma (Andorra); in addition, the vegetation at several points of the peninsula was sampled using a Noyes' net and occasionally with colour plates.

The material from Pina de Ebro, in the Monegros region (Zaragoza, Spain), was collected by J. Blasco-Zumeta, and the material from Santa Coloma (Andorra) was collected by J. Pujade.

Iberian localities mentioned in this paper are listed (in alphabetical order) with the countries and provinces to which they belong. Spain: Candeleda (Ávila), Fortuna (Huesca), Granada (Granada), Jaén (Jaén), La Parra (Ávila), Losilla de Aras (Valencia), Oseja (León), Pina de Ebro (Zaragoza), Sangüesa (Navarra), Villahermosa (Castellón), Totana (Murcia), Villertás (Palencia). Portugal: Fátima (Santarém), Gimonde (Bragança), Granja Nova (Viseu), Lamego (Viseu), Óbidos (Leiria), Porto de Estrela (Guarda), Regua (Vila Real). Andorra: Santa Coloma (Andorra la Vella).

The material studied is deposited in the Facultat de Biologia de Barcelona, the Natural History Museum (London) and in Askew's collection.

Identification of material was mainly based upon the key to the European fauna in GRAHAM (1995). Intraspecific variation renders identification of some species difficult, and this is particularly true of species in the *E. westwoodi* Giraud group. Males are more difficult to determine than females, and males of some species are still unknown. The type material studied by Graham has been examined, and as a result

some males have been identified with certainty. However the specific identity of a number of males and of a few females remains uncertain.

Results

The comments on the material studied refer to females, unless otherwise stated.

Elasmus bistrigatus (Graham, 1995)

Studied material

Pina de Ebro: 7 VI 91, 1♀; 6 VII 91, ? 1♂; 1 VIII 91, 3♀♀; 22 V 92, 1♀ 3♂♂; 8 VII 92, 8♀♀; 28 VIII 92, 1♂.

Females were compared with paratypes from southern France in the Natural History Museum. The Spanish specimens are generally much paler than the paratypes with the front surface of the head entirely yellow or with only the ocellar triangle black, the mesoscutum with a broad yellow band posteriorly, the posterior margin of the scutellum and the entire metanotum yellow, the sides of the thorax with only the anterior part of the mesepisternum darkened and the basal three-quarters of the gaster reddish yellow. A paratype from Gordes (26 VII 1975), however, approaches the Spanish material in coloration. The paler and brighter coloration of the specimens from Pina de Ebro may be attributable to the very dry climate.

The male of *E. bistrigatus* has not previously been recognized. Those recorded above are darker than the females with the upper face variably blackened and the dorsum of the thorax (except the metanotum) black with sometimes a trace of paler coloration on the mesoscutum posteriorly.

Elasmus cyprianus (Ferrière, 1947)

Studied material

Fortuna: 4 VII 95, 1♀ (leg. Pujade).

Dorsellum completely yellow. Scutellum extensively black, except for a narrow yellow fringe posteriorly. Legs wholly yellow. Most of head also yellow, with black ocellar triangle.

Elasmus flabellatus (Fonscolombe, 1832)

Studied material

Pina de Ebro: 25 V 91, ? 1♂; 7 V 91, 1♀;
20 V 91, 1♀; 1 VI 91, ? 1♀; 6 VII 91, ? 1♀.

Elasmus ? fulviceps (Graham, 1995)

Studied material

Pina de Ebro: 1 VI 91, 1♀; 9 VI 91, 1♀.

The Spanish specimens have been compared with paratypes of *E. fulviceps* from France in the Natural History Museum. They represent a form that is very close to *fulviceps*, but which may be specifically distinct. The head of the Spanish specimens is darker with the black spot in the ocellar triangle extended downwards to the level of the apices of the scrobes, the inner orbits more or less darkened and a black spot on each side between torulus and lower corner of eye.

As noted above under *bistrigatus*, it might be expected that Spanish material would be paler, not darker, than French material, and more importance may be placed on the colour differences than would otherwise be the case. In addition, the antennae of the Spanish specimens are a little stouter with more sensillae than those from France, and the gaster is somewhat longer. More material needs to be studied before it can be decided whether or not the specimens from Monegros are *E. fulviceps*.

Elasmus genalis (Graham, 1995)

Studied material

Pina de Ebro: 18 VI 93, 1♀ 1♂.

Elasmus nowickii (Ferrière, 1947)

Studied material

Pina de Ebro: 22 V 92, 1♀; 20 VII 92, 2♀♀; 9 X 91, 1♀.

Apparently recorded only from France and 'Yugoslavia'. Similar in colour to the Spanish specimens of *bistrigatus*, but with a longer gaster. At Pina de Ebro, all specimens of *bistrigatus* were collected from *Gypsophila*, whereas *nowickii* was associated with *Atriplex*.

Elasmus phthorimaeae (Ferrière, 1947)

Studied material

Totana: 20 VI 73, 2♀♀ (leg. Z. Bouček).

Elasmus platydrae (Ferrière, 1935)*Elasmus elongatus* Ferrière, 1947

Studied material

Candeleda: 24 VIII 95, 1♀ (leg. Pujade); Gimonde: 29 VII 95, 1♂ (leg. Pujade); La Parra: 24 VIII 95, 1♀ (leg. Pujade); Lamego: 1 VIII 95, 1♀ 1♂ (leg. Pujade); Losilla de Aras: 18 VIII 95, 1♀ (leg. Algarra), Óbidos: 5 VIII 95, 1♀ (leg. Pujade); Pina de Ebro: 7 VI 91, 1♀; 6 VII 91, ? 1♂; 1 VIII 91, 3♀♀; 22 V 92, 1♀ 3♂♂; 8 VII 92, 8♀♀; 28 VIII 92, 1♂; Porto de Estrela: 4 VIII 95, 4♀♀ 1♂ (leg. Pujade); Villahermosa: 28 VIII 95, 1♀ (leg. Algarra).

E. platydrae has fore tibia and tarsus paler than the rest of the leg. Gaster of some specimens obscurely yellowish ventrally. The fore wing does not reach the tip of the gaster.

According to GRAHAM (1995), this is perhaps the commonest *Elasmus* in the Mediterranean subregion from Portugal to Greece and Cyprus. It occurs also in North Africa.

Elasmus rufiventris (Ferrière, 1947)

Studied material

Granja Nova: 30 VII 95, 1♀ (leg. Pujade); Jaén: 20 VII 1974, 1♂ (leg. R. R. Askew); Pina de Ebro: 28 V 90, 2♂♂; 24 VI 90, 1♀; 11 VII 90, 1♀; 2 VIII 90, 1♂; 2 VIII 90, 2♀♀; 28 VIII 90, 2♀♀; 18 IX 90, 2♀♀; 25 IX 90, 1♂; 17 X 90, 1♂; 25 IV 91, 1♀; 7 VI 91, 1♀ 1♂; 7 VI 91, 4♀♀ 3♂♂; 9 VI 91, 1♂; 20 VI 91, 5♀♀ & 3♂♂; 6 VII 91, 4♀♀ 3♂♂; 21 VII 91, 1♀; 25 VII 91, 3♀♀; 1 VIII 91, 1♀ 2♂♂; 7 VIII 91, 1♀ 1♂; 25 VIII 91, 1♂; 10 IX 91, 1♀ 3♂♂; 23 IX 91, 1♂; 20 X 91, 1♂; 10 IV 92, 1♀; 28 VI 92, ? 1♂; 20 VII 92, 2♂♂; 21 VII 92, ? 1♀; 25 VII 92, 1♀ 1♂; Regua: 1 VIII 95, 1♀ (leg. Pujade); Santa Coloma: 13-31 VI 93, ? 1♂; 1-15 VII 93, 1♀; 1-15 VIII 93, 1♀; Villertias: 12 VIII 94, 1♂ (leg. Pujade).

Nearly all of the above-listed specimens have an entirely dark thorax, but in a few from Pina reddish coloration appears on

the side of the pronotum and on the prepectus. In three females (captured 25 VII 91, 7 VIII 91, 10 IV 92) the thorax is red with black coloration limited to an anterior median spot on the pronotum, a small spot at the base of the fore wing, and the scutellum.

In all specimens, even in those having a pale thorax, the coxae and femora are extensively black.

Identification of males is uncertain and those of *rufiventris* could easily be confused with *flabellatus* or *westwoodi*.

A notably large proportion of *rufiventris* captured at Pina were taken in Malaise traps.

Elasmus steffani (Viggiani, 1967)

Elasmus flabellatus Fonscolombe, 1832

Elasmus masii Steffan, 1962

We have distinguished between two forms, according to the length of F3 (couplet 4 in Graham's key). Forms with F3 subquadrate are termed 'A' (couplet 7), and those with F3 much longer than broad are termed 'B' (couplet 11).

Studied material

A form. Santa Coloma: VIII 92, 1♀; 1-15 VII 93, 1♀; 1-15 VIII 93, 1♀. B form. Granada: 4♀♀, 2♂♂ (no date or collector, det. J. Lasalle); Santa Coloma: 1-15 VIII 93, 1♀.

All of the 'A' forms have black dorsellum with a weak golden tinge. The 'B' forms are not as dark as Graham states in his key; they do not have a mainly black body and the head, gaster and legs are quite pale.

Elasmus unicolor (Rondani, 1877)

Heptocondyla unicolor Rondani, 1877

Elasmus fumipennis Thomson, 1878

Elasmus vibicellae Ferrière, 1947

Studied material

Oseja: 7 VIII 1974, 1♀ (leg. R. R. Askew); Santa Coloma: 13-31 V 93, ? 1♂.

Elasmus viridiceps (Thomson, 1878)

Studied material

Fátima: 3 VIII 95, 1♀ (leg. Pujade); Fortu-

na: 4 VII 95, ? 1♂ (leg. Pujade); Lamego: 1 VIII 95, 1♀ (leg. Pujade); Porto de Estrela: 4 VIII 95, 1♀ (leg. Pujade); Sangüesa: 19 VII 95, 1♀ (leg. Pujade); Santa Coloma: IX 92, 1♀.

The 'bluish tinge' that Graham mentions is hardly perceptible in most of the specimens. The species resembles *E. platyedrae* but is most easily separated from it by its relatively longer fore wings which almost reach to the tip of the ovipositor.

Elasmus westwoodi (Giraud, 1856)

Studied material

Pina de Ebro: 17 X 90, ? 1♂; 9 IV 91, ? 1♀; 7 V 91, ? 2♀♀, 2♂♂; 24 V 91, 2♀♀, 2♂♂; 1 VI 91, 1♂; 7 VI 91, 4♂♂; 20 VI 91, 1♂; 7 VIII 91, ? 1♂; 25 VIII 91, ? 1♂; 27 I-20 II 92, 21♀♀, 8♂; 20 IV 92, 1♀; 10 V 92, 3♀♀; 22 V 92, ? 1♂; 20 VII 92, ? 1♂; 18 VI 93, 2♀♀, 1♂.

Identification of all males as *westwoodi* is tentative only. *E. flabellatus*, *E. westwoodi* and *E. rufiventris* are closely allied and their males cannot always be distinguished with certainty.

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Resumen

Especies de Elasmus Westwood, 1833 (Hym., Chalcidoidea, Elasmidae) halladas en la península ibérica

En este trabajo se estudian varias especies del género *Elasmus* a partir de material diverso procedente de Portugal, España y Andorra. En total se han obtenido 13 especies

de las 23 presentes en Europa. Pese a no ser un grupo raro, es la primera vez que se citan especies del género *Elasmus* en España y Andorra; la mayoría de las especies también se citan por primera vez en Portugal. Se estudia la variabilidad específica observada en el material recolectado para aquellas especies no mencionadas en trabajos anteriores.

References

- CEBALLOS, G., 1941-43. *Las tribus de himenópteros de España*. C.S.I.C.
- GRAHAM, M. W. R. DE V., 1995. European *Elasmus* (Hymenoptera: Chalcidoidea, Elasmidae) with a key and descriptions of five new species. *Entomologist's monthly magazine*, 131: 1-24.