

Species of *Eupelmus* (Hymenoptera: Chalcidoidea) on Spanish juniper

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Abstract: Three species of *Eupelmus* were reared from midgegalls on *Juniperus thurifera*: *E. juniperinus*, *E. pallicornis* spec. nov., which belong to a separate species group within *Eupelmus*, and *E. urozonus*.

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Introduction

Recently I described (Gijswijt, 1990) two new species, a pteromalid and a torymid, which were collected on *Juniperus thurifera* L. in Spain near Soria. I mentioned a second juniper species in that paper: *J. oxycedrus* L., from open forest. However, this identification was incorrect; in fact it is *J. communis* L..

I visited the same location for a second time from 18 June-5 July 1990, and found that the *J. thurifera* trees are distributed over a much larger area than was suggested earlier. Remarkably, all Spanish junipers in the region concerned were densely set with midgegalls (fig. 1). Many of the Chalcidoidea collected in this locality seem to be associated with these galls.

Eupelmus juniperinus Bolívar (fig. 2)

Bolívar y Pieltain (1933) described this species from four specimens, taken from *Juniperus oxycedrus* near Zarzaleja, southwest of Madrid. I did not see type specimens: they were untraceable in the Museo Nacional de Ciencias Naturales in Madrid (information Dr. J. L. Nieves). However, the detailed description makes it possible to recognize this distinct species. My specimens from *J. thurifera* fit the original description, except for one character: the antennal clava (fig. 2) is as long as or

somewhat longer than the three preceding funicle segments instead of slightly shorter. The species was not rare at the end of June and the beginning of July. I have reared one female in August, from twigs with the cecidomyiid gall.

Eupelmus pallicornis spec. nov. (figs. 3-4)

Material: Holotype, ♀ (Instituut voor Taxonomische Zoologie (Entomologie) Amsterdam): "ESPANA (Soria), 10 km S ABEJAR, 20.viii.1987, M. J. Gijswijt" "twigs with cecidomyiid galls on *Juniperus thurifera*".

Paratypes: 4 ♀♀ same date as holotype; 4 ♀♀ same data as holotype except date of emergence: "23.viii, 30.viii, 7.ix and 9.x"; 8 ♀♀ "ESPANA, (Soria), M. J. Gijswijt" "10 km S ABEJAR, on *Juniperus thurifera*, 24-27.vi.1987"; 2 ♀♀ "ESPANA, prov. Soria, M. J. Gijswijt" "EL BURGO DE OSMA, on *Junip. thurif.*, 21-25.vi.1990"; 4 ♀♀ "ESPANA prov. Soria, M. J. Gijswijt" "UCERO 1100 m, on *Junip. thurif.*, 18-26.vi.1990"; 1 ♀ "ESPANA, prov. Soria, M. J. Gijswijt" "UCERO, 1100 m, 18.vi.1990" (Instituut voor Taxonomische Zoologie (Entomologie) Amsterdam, Nederlands Natuurhistorisch Museum Leiden, Museo Nacional de Ciencias Naturales Madrid, and in my collection).

Female: Head dorsally seen twice as broad as long. POL:OOL = 1.8-2.0, temples about 1/3 eyelength. Antennae (fig. 3): scapus 0.9 times length of eye, pedicellus + flagellum 1.1-1.2 times breadth of head; pedicellus twice as long as broad. Anellus slightly broader than long, first funicle segment (FI) as broad as anellus but slightly longer, FVII subquadrate, clava

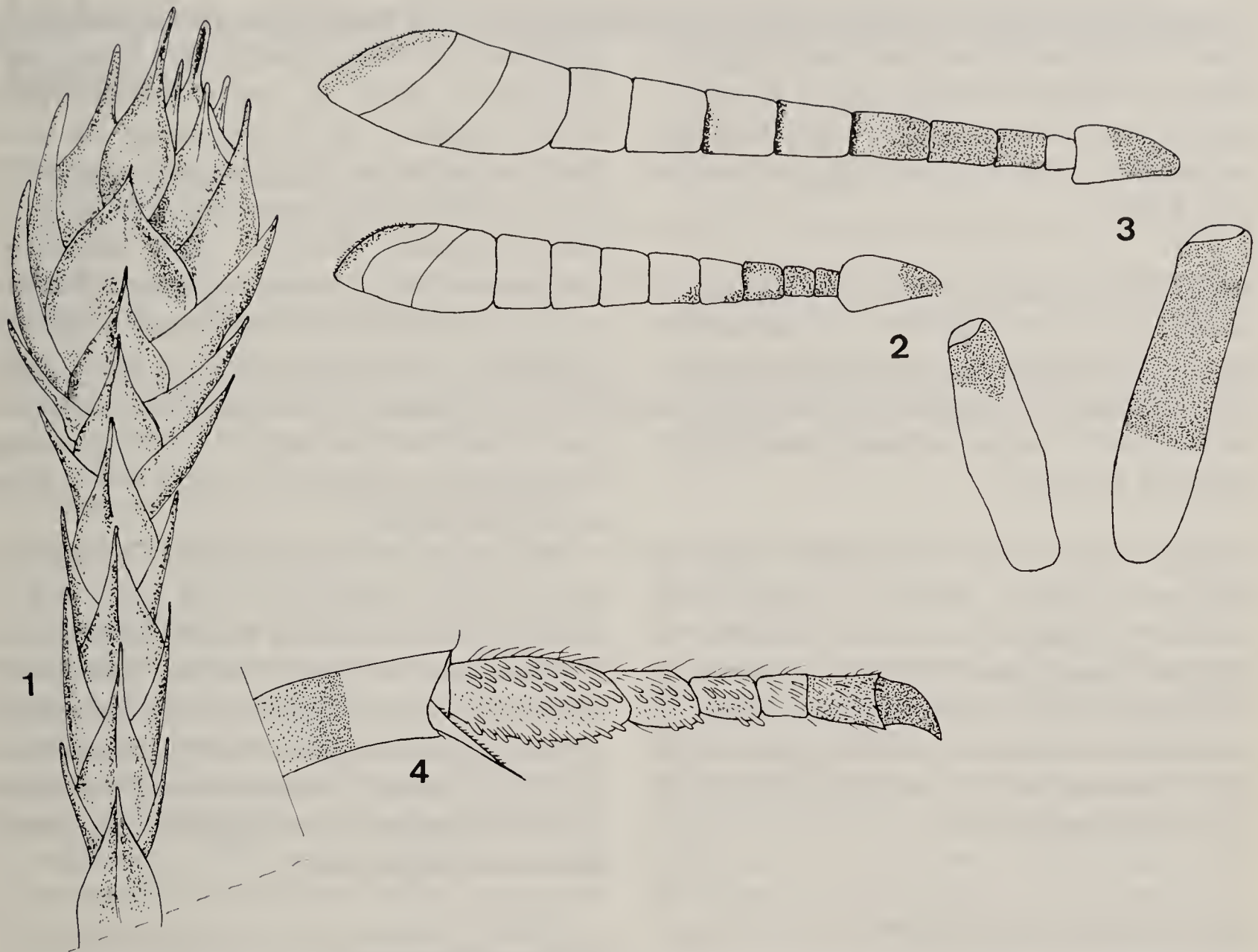


Fig. 1. Cecidomyid gall on *Juniperus thurifera* (true length 3 cm); Fig. 2. *Eupelmus juniperinus* Bolívar, left antenna; Fig. 3. *Eupelmus pallicornis* sp.n. left antenna; Fig. 4. *Eupelmus pallicornis* sp.n., mesotarsi in latero-ventral view.

2.5-3 times as long as broad, sutures of the segments oblique, area of micropilosity extending about halfway clava. Frontally seen the head is 1.0-1.3 times as broad as high, oral fossa 1.6-1.7 times malar space, eyes 1.4 times as long as broad. Lower edge of toruli situated distinctly below lower eyeline.

Thorax 1.4-1.5 times as long as broad, length of pronotum 1/7 of that of mesonotum, scutellum 1.0-1.3 times as long as broad. Forewing completely hairy, costal cell:marginal:postmarginal:stigmatal vein = 100:63:44:30. Spur of middle tibia 1/5 length of tibia. The first mesotarsal segment is set with about 6 irregular rows of pegs, segment 2 with 4, and segment 3 with 2 rows (fig. 4). These pegs are concolorous with the tarsal segments.

Gaster much collapsed, about 2.5 times as long as broad, ovipositor 0.8-0.9 times as long as hind tibia.

The head is green with golden reflections, sometimes fiery along inner orbits of eyes and on vertex; antennae with distal half of scapus, proximal half of pedicellus as well as FI and FII black, the rest of the antennae yellowish-white but clava more testaceous towards the end and FIV somewhat darkened. Thorax dorsally green with golden reflections, hind part of axillae yellow and sides of mesonotum partly yellowish. Postspiracular sclerite yellow with a broad membraneous edge, pleurae brownish with metallic tint, frontal part of mesepisternum brown with yellowish spot. Fore- and middle coxae yellow, proximally brownish, hind coxae mainly greenish, trochanters testaceous with a brown spot dorsally, tibiae testaceous, fore- and middle tibiae with a black ring proximally, hind ones infuscate at least in distal half, tarsi testaceous in proximal to dark brown in distal segments.

Gaster brown, sometimes dark with metallic tints, or light brown without; last tergite testaceous. Ovipositor brown, with a broad testaceous ring in the middle. Length including ovipositor 1.6-2.9 mm, excluding ovipositor 1.3-2.4 mm.

Male: I have reared males of two species. As usual in this genus they have no specific characters in common with the females so that the relation cannot be ascertained yet. They are less extensively yellow coloured; especially the antennae are black.

Biology: reared from cecidomyiid galls on *Juniperus thurifera*. Beside two unidentified species of gallmidges, a fair number of *Pammene juniperana* (Millière) (Lepidoptera, Tortricidae) were reared. The caterpillars of this species live on the swollen scales of the galls. Therefore the host of the eupelmid cannot be ascertained yet.

Eupelmus urozonus Dalman

This polyphagus species was present on the trees in considerably smaller numbers than the other two species. I collected specimens between 21.vi and 4.vii in the field and obtained a few from the galls until 31.vii.

Discussion

Females of *E. juniperinus* and *E. pallicornis* can be distinguished from all other species by the small pegs on segments I-III of the mesotarsi and by the pale flagellum. These species seem to form a separate group in the genus. The most important differences between the

two are to be found in the antennae; in *E. pallicornis* FI-FIII are longer than broad, and the clava is about as long as the last three funicle segments. In *E. juniperinus* the first funicle segments are at most quadrate and the clava is often slightly longer than the last three funicle segments. Moreover, in *E. pallicornis* the gaster is dark, concave and about 2.5 times as long as broad in dried specimens, while the ovipositor is 0.8-0.9 times as long as the hind tibiae. The gaster of *E. juniperinus* is testaceous, dorsally flattened and 1.6-1.8 times as long as broad; the ovipositor is at most half as long as the hind tibiae.

Note: in the drawings, the area of micropilosity is on the dorsal side of the clava, as it is in most (dried) specimens. In other families, i.e. Pteromalidae and Encyrtidae, the position of the area is on the ventral side. Some specimens of both *Eupelmus* species have it exposed laterally and in one it is placed ventrally. It looks as if in *Eupelmus* the flagellum can rotate around its length axis.

Acknowledgements

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