

HYMENOPTERAN INSECTS FROM THE LOWER CRETACEOUS AMBER OF ALAVA (SPAIN)

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Since 1996, the Lower Cretaceous (Aptian) amber of Alava (Spain) has contributed approximately one thousand five hundred fossil arthropods, mainly insects, the majority very little in size. In terms of the number of specimens and diversity, the largest group is Diptera (> 55 %), and the second largest group is Hymenoptera, with approximately two hundred fifty individuals (24 %). In general, the insect fossil assemblage found in the Alava amber is similar, both in present groupings and relative abundance, compared to the rest of the Cretaceous ambers. Two groups of Hymenoptera have been discovered, Symphyta and Apocrita. Symphyta is represented by a single specimen of Anaxyelidae, the first record of Symphyta in the Cretaceous ambers. The Apocrita is divided into two groups Parasitica and Aculeata, on the basis of their morphology eating habits and behaviour, but this distinction is not always possible in the fossil specimens. Parasitica make up 95 % of the total Hymenoptera specimens found in this amber and belong to 9 families: Orussidae, Trigonalidae, Evanidae, Megaspilidae, Stigmaphronidae, Scelionidae, Serphitidae, Mymaromatidae and Braconidae. Scelionidae dominate with 48 % of specimens collected, and Stigmaphronidae are the next largest family with 8 % . Aculeata make up 4 % and belong to three or four families: Sphecidae, Chrysidae, Bethyidae and possibly a new family of Chrysidoidea. The records of Orussidae, Evanidae and Mymaromatidae are the oldest for these families which were not previously known before the Upper Cretaceous, or Evanidae the Eocene. In contrast, the record of Anaxyelidae is the latest one for this family, except for a sole living species which survived in SW North America. Serphitidae and Stigmaphronidae are extinct groups known exclusively from the Cretaceous.

INSECT ASSEMBLAGES IN THE MESOZOIC RECORD OF THE IBERIAN PENINSULA

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In the Iberian Peninsula Mesozoic insect record only appears in Triassic and Cretaceous rocks. During the major part of the Jurassic, marine waters occupied this area and continental sedimentation only took place during the Tithonian. Although in the Triassic rocks the record of insects is scarce, during the Cretaceous a very large quantity of specimens has shown up in lithographic limestones and amber.