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Predator-predator-prey interaction between spiders and insects: First fossil evidence from 23 million-year old Chiapas amber syninclusion

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Syninclusions are palaeontological resources that provide palaeoautoecological evidence of fossil species and information on the biological interactions between different organisms that were part of a past ecosystem. Although palaeautoecological interactions in amber have been documented worldwide, interactions between predators and potential prey are rare. Here, we documented the first evidence in Miocene Chiapas amber of predator-predator-prey interaction involving two spider species and one insect: the araneophagous "pirate spider" *Mimetus* sp., the Theridiidae spider *Thymoites carboti*, and gall flies (Cecydomiidae). The interaction between *Mimetus* sp. and *T. carboti* is documented as a possible case of araneophagy or opportunism. Also, the first evidence of a web built by some members of the *Thymoites* genus is presented. The taphonomic analysis of the amber piece indicated that they were all captured at the same time under the same resin flow.

Key words: Early Miocene, araneophagy, biological interactions, palaeoautoecology, syninclusions, Chiapas, Mexico.

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