ACTA PALAEONTOLOGICA POLONICA

Early Miocene coastal taphonomy: piddock and barnacle inclusions from Chiapas amber

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Acta Palaeontologica Polonica 70 (3), 2025: 495-505 doi:10.4202/app.01200.2024

Piddocks (Pholadidae) are bivalves adapted for boring in substrates such as wood, rocks, and fossil resins. While the trace fossils associated with their boring behavior (*Teredolites* and *Apectoichnus*) are well documented, their body fossils are much rarer in the fossil record, particularly as amber inclusions. This work reports inclusions of fossilized piddocks and the first known barnacle inclusions from the Early Miocene simojovelite (Chiapas amber). We examined seven amber specimens containing over 90 piddock inclusions, representing at least five distinct morphotypes. The amber preserved various developmental stages, from juveniles with open pedal gaps to fully mature individuals with well-developed accessory plates. Taphonomic analysis, observed orientations, and the presence of diagenetically altered inclusions suggest that these piddocks inhabited waterlogged wood of Hymenaea and possibly semi-hardened resin before entrapment. This study highlights fossil resins as an overlooked preservational medium for marine invertebrates, providing new data on piddock behavior, fossil resin taphonomy, and the Miocene coastal environments of the Chiapas region.

Key words: Bivalvia, Martesiinae, Pholadidae, Cirripedia, piddocks, barnacles, ichnofossils, taphonomy, Chiapas amber, simojovelite, Miocene.

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