

New reproductive structures of Cunoniaceae tribe Cunonieae from the early Eocene Laguna del Hunco flora, Chubut, Patagonia, Argentina.

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The early Eocene (~52 Ma) Laguna del Hunco flora from Chubut Province, Patagonia, Argentina, has provided key insights into the history of iconic Southern Hemisphere plant taxa, among them *Agathis* (Araucariaceae), *Papuacedrus* (Podocarpaceae), *Gymnostoma* (Casuarianaceae), *Eucalyptus* (Myrtaceae), and the families Proteaceae, Winteraceae, and Cunoniaceae. Within Cunoniaceae, fruits of *Ceratopetalum* (tribe Schizomerieae) have previously been described from the flora. Here, we present new reproductive macrofossils with morphological affinities to the extant genus *Weinmannia* of tribe Cunonieae. The specimens include multiple reproductive axes bearing flowers and fruits, as well as dispersed capsules. Morphological similarities that link the fossils to extant Cunonieae include racemose reproductive axes with acropetal and synchronous flower and fruit maturation; dehiscent, bicarpellate, and syncarpous capsules; persistent, decurrent styles; and four- or five-merous perianth whorls. The combination of a seed-bearing replum in the capsule, septicidally dehiscent capsules, and a persistent 4-5-merous calyx links the specimens to the genus *Weinmannia*. These specimens represent the first and oldest record of Cunonieae in South America based on reproductive macrofossils, and they provide strong evidence that at least two tribes of Cunoniaceae—Cunonieae and Schizomerieae—had already diversified by the early Eocene. *Weinmannia* is the most speciose extant genus of family in South America. Globally, it comprises approximately 200 species and is widely distributed in the Neotropics, temperate South America, subtropical and tropical Indian Ocean islands (Comoros, Madagascar, and the Mascarenes), Malesia, and the South Pacific. Therefore, the presence of fossils with affinities to *Weinmannia* connects the Laguna del Hunco paleoflora in West Gondwana to multiple modern biogeographic regions, presumably through combinations of plate movements and oceanic dispersals.