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Lygodium (Schizaeaceae) in southern high latitudes during the Cenozoic – a new species

and new insights into character evolution in the genus

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Abstract

Utilising both macrofossil and spore evidence the fern, Lygodium Swartz, is shown to be

common in the Cenozoic of eastern Australia. A new species, Lygodium goonyellum sp. nov.

that has laminate fertile pinnules with crenulate margins and reticulate spore morphology

(Crassiretitriletes vanraadshoovenii Germeraad, Hopping et Muller), is described from Suttor

Formation or its equivalents, near Moranbah, Queensland. Palynological data and isotopic

dates supports an Oligocene-early Miocene age for this unit. The laminate fertile pinnules

and spores in L. goonyellum are morphologically similar to those of extant Lygodium

microphyllum (A.J.Cavanilles) R.Brown and L. reticulatum Schkuhr. It differs from the

Australian Paleogene species L. dinmorphyllum Churchill in both laminate fertile pinnules

and reticulate spores. Additional distributional data on L. dinmorphyllum is provided,

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