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Oligocene Echinoids from Trelissic Basin, New Zealand

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Abstract

A small collection of early to middle Oligocene echinoids includes a new genus and new species of Temnopleuridae, and a new species of *Brissopsis* closely allied to the extant Indo-West-Pacific *B. luzonica*. The occurrence of *Brissopsis* in New Zealand so early as the Oligocene is significant, for the genus (though otherwise widely distributed) is unknown from South America and Antarctica; the Oligocene species is evidently an early member of the typical *Kleinia* assemblage, still surviving in the Indo-West-Pacific, and already known to have been present in Java in the Miocene. The ecology of *Brissopsis* forbids dispersal by epiplanktonic drift, and probably demands a benthal dispersal route. Such route must therefore have been lacking between New Zealand and South America (and Antarctica) since the Oligocene. The other Oligocene genera also point to Indo-West-Pacific derivation and contraindicate southern connexions of the New Zealand plateau.

THE following brief report on fossil echinoids from the Trelissic Basin, Canterbury, New Zealand, is intended merely to establish their nomenclature and to facilitate their citation in other contexts. The co-operation of the New Zealand Geological Survey, and in particular of Dr C. A. Fleming, is gladly acknowledged. I am grateful to Mr M. D. King, Victoria University of Wellington, for the photographs which illustrate the type specimens. The zoogeographic implications of the faunule are consistent with inferences previously drawn from study of Tertiary and Recent echinoderms of New Zealand and adjacent regions.

Order TEMNOPLEUROIDA

Family TEMNOPLEURIDAE

Goniosigma n. g.

A temnopleurid resembling *Grammechinus*, but differing in having the small secondary tubercles of the interradial (admedian) angles of the interamb plates arranged in vertical zig-zag series, parallel to the abradial sutures, so as to form sigmoid patterns on either side of the interradius. The generic name is of neuter gender.

TYPE SPECIES. *Echinus enysi* Hutton, 1873.

Goniosigma enysi (Hutton) (Plate 1, figs. 1, 2).

Echinus enysi Hutton, F. W. *Catalogue of the Tertiary Mollusca and Echinodermata of New Zealand,* 1873, p. 39.

DIAGNOSIS. As for the genus, only the type species being known.