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An Early Permian crinoid fauna from Crete*

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Abstract

Early Permian crinoids are reported from a small cape at Bali, north central Crete, Greece. The specimens have undergone low-grade metamorphism, but are moderately well preserved. At the generic level the fauna shows greatest affinity with North American faunas and secondarily with Timor faunas. This is the first Paleozoic crinoid fauna reported from Greece.

New taxa introduced are: *Synbathocrinus cretensis* n. sp., *Apographiocrinus nodosus* n. sp., *Pyndaxocrinus granulatus* n. sp., *Protencrinus baliensis* n. sp., and *Artichthyocrinus koenigi* n. sp.

Key words: Crinoidea, Echinodermata. New taxa, Greece, Palaeozoic

Introduction

For more than a century the complex structural geology of Crete has been interpreted differently by various investigators (Cayeux 1902; Hall *et al.* 1996; Papanikolaou & Vassilakis 2008, 2010; among others). All agree that the geology is complex and during the past half century fossils (including fusulinids) found in the Talea Ori Mountains of north central Crete have provided Permian ages of Asselian and Wordian for the oldest rocks recognized (Kuss 1963; Epting *et al.* 1972; König & Kuss 1980). However, the stratigraphy and stratigraphic names applied in the Talea Ori Mountains differ along with the structural interpretations in the vicinity of Bali on the north central coastal area of Crete.

A small cladid dominated crinoid fauna was discovered by Heinz König in phyllites at Bali while doing field studies in 1976–77. In 1978 the specimens were sent to Harrell Strimple for examination and he replied with tentative identifications. Nothing else was done with the specimens until Terry Frest borrowed the specimens after Strimple's death in 1983. Upon Terry's death in 2008 Webster was asked to archive his echinoderm research collections. Recognizing that the Crete fauna had not been reported and that this was the first crinoid fauna to be reported from Greece, contact was made with König via Ursula Leppig, Geologisch-Paläontologisches Institut, Freiburg im Breisgau, where the specimens had been catalogued. The purpose of this paleontological report is to describe the fauna, compare it to time equivalent faunas worldwide, and provide an approximate age for the rocks in which the fossils were found.