

VOLUME 52
PART 2

MEMOIRS
OF THE
QUEENSLAND MUSEUM

BRISBANE
30 APRIL 2008

© Queensland Museum

PO Box 3300, South Brisbane 4101, Australia
Phone 06 7 3840 7555
Fax 06 7 3846 1226
Email qmlib@qm.qld.gov.au
Website www.qm.qld.gov.au

National Library of Australia card number
ISSN 0079-8835

NOTE

Papers published in this volume and in all previous volumes of the *Memoirs of the Queensland Museum* may be reproduced for scientific research, individual study or other educational purposes. Properly acknowledged quotations may be made but queries regarding the republication of any papers should be addressed to the Editor in Chief. Copies of the journal can be purchased from the Queensland Museum Shop.

A Guide to Authors is displayed at the Queensland Museum web site
www.qm.qld.gov.au/organisation/publications/memoirs/guidetoauthors.pdf

A Queensland Government Project
Typeset at the Queensland Museum

ASTERIACITES IN THE LOWER CRETACEOUS OF QUEENSLAND. *Memoirs of the Queensland Museum* 52(2): 88. Noteworthy specimens of the distinctive trace fossil Asteriacites were recovered from the eastern margins of the Carpentaria Basin (Great Artesian Superbasin). These specimens are associated with a diverse ichnological assemblage including Planolites and Rosellia. The trace fossils assemblage is preserved in creek bank outcrops mapped as the Gilbert River Formation. The coarse sandstones displays ripple cross lamination, ubiquitous bedding-parallel bioturbation suggesting a shallow marine moderate energy environment.

Stratigraphic relationships in the general area (AGSO, 1997) indicate that the sequence present at the site is within ten metres above basement consisting of Mid Palaeozoic volcanics of the Scardons Volcanic Group and Palaeozoic granitoids.

The age of the Gilbert River Formation is poorly constrained, with most sources citing a Jurassic-Cretaceous (Aptian) age for the unit. Burger (1986) indicated a range of *Cicatricosporosis australiensis* to *Foraminisporosis symmetricus* spore pollen Zones. These units may however be equivalent in age to elements of the Coffin Hill Sandstone at Croydon, which is Aptian (Foram. asymmetric Zone).

Large monasterid sea-star fossils are known from scattered occurrences in the Late Aptian Doncaster Formation (e.g. Kronosaurus Korner, Richmond KKM 180) and from the Albian Allaru and Mackunda Formations (QM collections).

Asteriacites is quite common at the locality. The present specimens (QMF42629, QMF49524–6) are preserved in marked hyporelief and are up to 132mm wide across the widest spaced arms, with a central raised area of 30mm wide. The grain size limits detail of any of the oral disc or arms. These specimens indicate abundance of nearshore sea stars in the Cretaceous and point to the high diversity of undescribed ichnotaxa in the Great Artesian Basin.

Asteriacites is a common ichnogenus, preserved throughout the Palaeozoic to recent (Hanzschell, 1975) and Cretaceous examples have been recently described by Bell (2005).

Acknowledgements

Ian Sobbe, Mark Saul and Paul Tierney are thanked for collection of the figured specimens.

Literature Cited

- AGSO (Australian Geological Survey Organisation), 1997. Red River 1:250 000 Geological sheet SG54–8.
 BELL, C.M. 2004. Asteroid and ophiuroid trace fossils from the Lower Cretaceous of Chile. *Palaeontology* 47(1): 51–66.
 BURGER, D. 1986. Palynology, cyclic sedimentation and palaeoenvironments in the Late Mesozoic of the Eromanga Basin. Geological Society Special Publication 12: 53–70.
 OOSTING, A.M. 2004. Palaeoenvironmental and climatic changes in Australia during the Early Cretaceous. (Laboratory of Palaeobotany and Palynology Utrecht University, Utrecht). 205pp.

Alex G. Cook, Queensland Museum, PO Box 3300, South Brisbane 4101, alex.cook@qm.qld.gov.au; 5 January 2007.

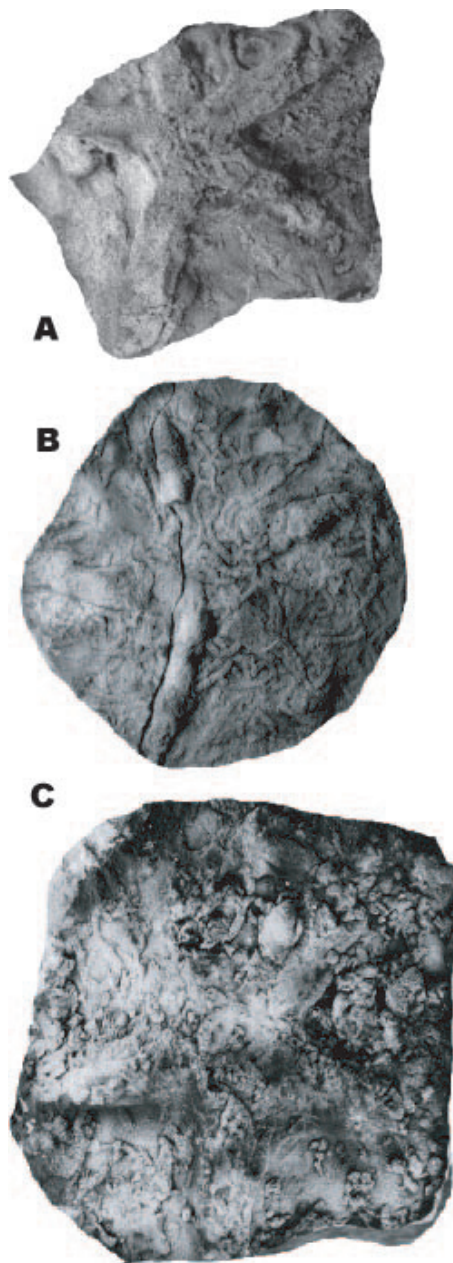


FIG. 1. *Asteriacites* isp. A. QMF42629 x0.6. B. QMF49525 x 0.4 C, QMF49526 x 0.7.