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NEW SPECIES OF FORAMINIFERA FROM WESTERN AUSTRALIA

by

D. J. Belford

The information contained in this report has been obtained by the Department of National Development, as part of the policy of the Commonwealth Government, to assist in the exploration and development of mineral resources. It may not be published in any form or used in a company prospectus without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

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Spirotecta pellicula, n.gen., n.sp., from the Upper
Cretaceous of Western Australia.

Abstract

The new genus Spirotecta is described, with S. pellicula, n.sp. as the type species. This genus is characterised by the wholly involute test and the granular wall structure.

Family ? CHILOSTOMELLIDAE

Genus Spirotecta, n.gen.

Type species: Spirotecta pellicula, n.sp.

Test free, trochospiral, wholly involute, umbilicus closed; wall thin, calcareous, very finely perforate, granular in structure; no internal structure present, septal walls single; aperture interiomarginal, with a narrow lip.

Remarks: The writer is not certain of the affinities of Spirotecta, n.gen., but places it provisionally in the Chilostomellidae. Thin sections and dissected specimens show that the genus is involute throughout and not only in the later growth stages. Other genera of the Chilostomellidae, such as Quadrिमorphina, Allomorphina and Rotamorphina have a granular wall structure and also an interiomarginal aperture. Spirotecta, n.gen. has a thin lip bordering the aperture, but lacks the distinct umbilical flap of Quadrिमorphina and Rotamorphina and also differs in the involute nature of the test.

Spirotecta, n.gen. may be referable to the Eponididae. Reiss (1958) stated that some species of Eponides have radiate walls but that most have a granular structure. Wood (1949) found that the type species of Eponides, E. repandus (Fitchell and Moll) possessed a radiate wall structure. However, the concept of this species and

also of the genus Eponides has changed since they were originally described. Spirotecta pellicula, n.sp. has the same involute form as the type specimen of Eponides repandus as figured by Fitchel and Moll, one view of which was refigured by Montfort when he established the genus Eponides (see Redmond, 1949 and Hofker, 1950).

The generic name is from the Latin spira, spire and tego, to cover, referring to the involute coiling of the test.

Spirotecta pellicula, n.sp.

(Plate 1, figs. 1-8).

Diagnosis: Test trochospiral, unequally biconvex, wholly involute; wall calcareous, finely perforate, granular in structure; no internal structure present, aperture interiomarginal.

Description: Test trochospiral, unequally biconvex, wholly involute, umbilicus closed; in top view oval in outline with smooth or slightly indented periphery, in edge view periphery narrowly rounded. Sutures on ventral side narrow, depressed, radial, on dorsal side narrow, smooth, curved; septal walls single. Five chambers visible, increasing slowly in size as added, no internal structure present. Wall of test calcareous, very finely perforate, granular in structure; surface of test smooth. Aperture ventral, interiomarginal, a narrow slit with a small distinct lip, extending from the umbilicus and crossing the periphery of the test but not extending back along the dorsal side.

<u>Dimensions:</u>	<u>Length</u>	<u>Max. Width</u>	<u>Thickness</u>
Holotype	0.51 mm.	0.42 mm.	0.27 mm.
Paratype	0.45 mm.	0.35 mm.	0.24 mm.

Occurrence: Holotype (C.P.C. No.) from type locality of the Korojon Calcarenite in CY Creek, Carnarvon Basin, Western Australia, latitude 25' 53" S., longitude 114' 07" E., 96 feet above base of formation (Maestrichtian);

paratype (C.P.C. No.) from same locality, 55 feet above base of formation (Campanian); horizontal section (C.P.C. No.) from same locality and level as holotype; vertical section (C.P.C. No.) from same locality as holotype, 74 feet above base of Korojon Calcarenite (Campanian); vertical section (C.P.C. No.) from same locality and level as paratype.

Remarks: About 40 specimens of Spirotecta pellicula have been available for study; all have five chambers visible and all are wholly involute. The species is at present recorded only from the Korojon Calcarenite at the type locality. The specific name is the Latin pellicula, diminutive of pellis, skin.

The holotype, paratype and thin sections are deposited in the Commonwealth Palaeontological Collection, Canberra, Australia.

REFERENCES

- HOFKER, J., 1950. - What is the genus Eponides?
The Micropaleontologist, 4 (1),
pp. 15-16.
- REDMOND, C.D., 1949 What is the genus Eponides?
Ibid., 3 (4), pp. 19-21.
- REISS, Z., 1958 - Classification of lamellar foraminifera. Micropaleontology, 4
(1), pp. 51-70.
- WOOD, A., 1949 - The structure of the wall of the
test in the foraminifera; its
value in classification.
Quart. Jour. Geol. Soc. London,
104, pp. 229-255.

Giraliarella triloba, n.sp. from the Permian of Western
Australia.

Abstract

Giraliarella triloba, sp.nov., characterised by the trilobate outline of the test in end view, is described from subsurface Permian beds in the Carnarvon Basin, Western Australia.

Genus GIRALIARELLA Crespin, 1958.

Giraliarella triloba, n.sp.

(Plate 1, figures 9-13).

Diagnosis: Test elongate, trilobate, smooth, edges at first angulate, then rounded; non-septate; aperture terminal.

Description: Test free, elongate, straight, trilobate, with one side broader than the other two; usually broadening slowly with growth, but sometimes of uniform width throughout; initial portion unknown. Sharply angulate in early portion, in younger stages the angles broadly rounded; each side of test with a deeply depressed central groove. Wall smooth, composed of small quartz grains with much cement; surface of test occasionally with indistinct transverse constrictions, but test non-septate. Aperture terminal, central, an elongate slit either semicircular in shape or reflecting the trilobate outline of the test; no lip present.

<u>Dimensions:</u>	<u>Length</u>	<u>Max. Width</u>
Holotype	0.57 + mm.	0.28 mm.
Paratype A	0.45 + mm.	0.23 mm.
Paratype B	0.58 mm.	0.34 mm.

Occurrence: Holotype (C.P.C. No.) and paratypes A and B (C.P.C. Nos. and) from core No. 11, (1083 feet - 1093 feet), B.M.R. No. 9 Bore, Daurie Creek, Carnarvon Basin, Western Australia; Callytharra Formation, Permian (Artinskian).

Remarks: G. triloba has also been found in core No. 10 (992 feet - 1002 feet) in B.M.R. No. 9 Bore. No complete specimen has been found; the initial portion is always broken away, and sometimes also the apertural end. The trilobate outline in end view is a constant feature of all the 18 observed specimens and is the main feature distinguishing this species from those described by Crespin (1958). The rounded angles of the younger stages are also features shown only by G. triloba.

The specific name refers to the trilobate outline of the test in end view.

The holotype and two paratypes are deposited in the Commonwealth Palaeontological Collection, Canberra, Australia.

REFERENCE

- Crespin, Irene, 1958. Permian foraminifera of Australia. Bur. Min. Resour. Aust., Bull. 48.

EXPLANATION OF PLATE

All figures except thin sections are retouched photographs

FIGURES

1-8. Spirotecta pellicula n.gen., n.sp.

1-3 Holotype, C.P.C. No. ; 1, ventral view showing small apertural lip; 2, dorsal view showing involute test; 3, edge view showing unequally biconvex test. X48

4-5 Paratype, C.P.C. No. , 4, ventral view; 5, edge view. X48

6. Horizontal section, C.P.C. No. , showing single septal walls. X48

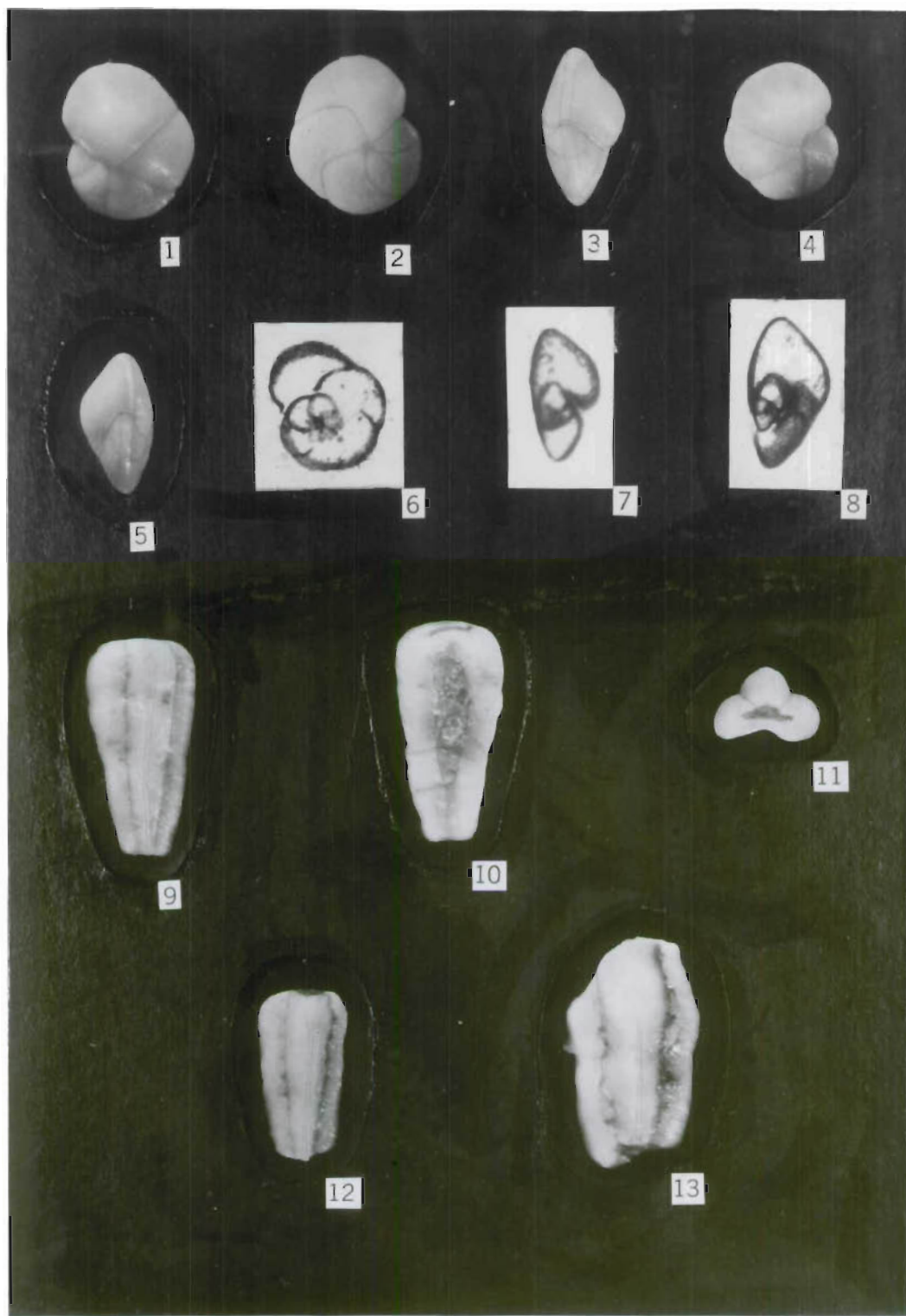
7-8 Vertical sections, C.P.C. Nos. and , showing involute coiling of test. X48

9-13. Giraliarella triloba, n.sp.

9-11 Holotype, C.P.C. No. ; 9, 10 views from opposite sides. 9, showing the angular early stage and rounded younger portion; 10, view of the broadest face, showing the deep central groove; 11, end view showing trilobate outline and the aperture. X59

12. Paratype A, C.P.C. No. , side view. X59

13. Paratype B, C.P.C. No. , side view. X59



Belford: Spirotecta pellicula, n. gen., n. s.
Giraliarella triloba, n. sp.