SAIPANELLIDAE: A NEW FAMILY OF PODOCOPID OSTRACODA

BY

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INTRODUCTION

When the ostracode genus Cardobairdia was first described from the Mid-Eocene Penitence Hill Marl of the Navet Formation, Trinidad, it was noted that the type species, Cardobairdia ovata also occurred in the Miocene Lenga Formation (Van den Bold, 1960: 155, pl. 2 fig. 2). Subsequently Kollmann (1962: 199, pl. 1 figs. 12-14) has recorded this species from the Mid-Eocene “Flysch” of Istria, Yugoslavia. Oertli (1961: 21, pl. 2 fig. 14) has noted a similar form in the type Langhian of Italy and Prof. Van den Bold has found Cardobairdia in the Upper Miocene of the Dominican Republic and Jamaica (Van den Bold, personal communication).

Van den Bold’s 1960 paper also contains a discussion on some species of “Krausella” from the Caribbean and Europe which are characterised by a hinge-ment close to that of Cardobairdia. These “Krausella” species range in age from Aptian to Miocene (Van den Bold, 1960: 155-156).

In 1963, per Miss Ruth Todd and Prof. I. G. Sohn, United States Geological Survey, I obtained “floats” of 58 Recent samples collected by Prof. P. E. Cloud, Jr., during 1949, from Saipan, Marian Islands, and later floated 55 Recent and sub-Recent samples collected by Cloud in 1951 from Onotoa Atoll, Gilbert Islands. Then, in 1964 I picked Ostracoda from 78 of the almost 400 samples collected during 1960-61 by an expedition of Scripps Institute of Oceanography to the Sahul Shelf, off northwest Australia (Swain & McKenzie, unpublished data). Each of the Pacific island series of samples provided a few individuals of Saipanella n. gen. while the Sahul Shelf pickings contained a “Krausella”. Another “Krausella” species has turned up in washed material from marine clays of Balcombian (Helvetian) age collected in the latter half of 1964 at the type locality for the stage, Fossil Beach, between Mornington and Balcombe, Victoria. Further, in a check of relevant literature I discovered that in 1890 Prof. G. S. Brady had recorded from Samoa a Recent species, Cytherella (?) tumida, which in my opinion belongs in Saipanella (Brady, 1890: 518). Unfortunately, Brady notes that his only specimen was destroyed when he attempted to dissect the animal and consequently the species does not appear among his collections at the Hancock Museum, Newcastle-upon-Tyne. The Onotoa species, however, resembles Brady’s illustra-
tions and description so closely that I consider it to be identical with his taxon. Lately, another Saipanella species has probably been recorded off British Honduras.

I have dissected the animal from a Saipan specimen of Saipanella (a male) and have also examined the shell characters of this and the other species available to me. On the basis of this evidence I believe that Saipanella requires placement with Cardobairdia in a new family. The species referred to “Krausella” are transferred to Cardobairdia following Herrig (1966). The family may well include the subfamily Sigilliuminae Mandelshtam, the type genus of which (Sigillium Kuznetsova) appears to resemble Cardobairdia (Orlov, 1960: 398, figs. 1162 a, b).

SYSTEMATIC DESCRIPTIONS

Saipanellidae n. fam.

Type genus: Saipanella n. gen.

Diagnosis. — A family of the superfamily Healdiacea characterised by small-medium size (about 0.40-0.70 mm length) and thick smooth shell; valves unequal, the left valve (LV) larger and overlapping the right (RV) around the entire margin; duplicature narrow, fused; radial pore canals (when visible) short, straight; normal pore canals scattered, simple, open; hingement merodont; adductor muscle scars numerous, clustered centrally. Anatomically, male first antenna with well developed sensory bristles; second antenna endopodite 5-segmented without natatory bristles, bearing a barbed distal chela, exopodite a plate-like process carrying 3 setae; mandible without epipod (?), palp 3-segmented, distal segment elongate bearing 6 slender ungues; maxilla epipodial appendage with about 20 Strahlen in all, 3 downwards-directed (no gap between these and the others), palp 2-segmented, third lobe with 2 short Zahnborsten; fifth limb epipod with about 10 feathered Strahlen, palp jointed and modified for claspers in males; 6th and 7th limbs pediform, their respective proximal segments each bearing a ventral setiferous segment; furca short powerful, triple-clawed, supported by elongate chitinous struts; posterior region of the body segmented (?); penis rather squat. Female anatomy unknown.

Discussion. — The muscle scar pattern separates genera in this family from all other modern genera and links them with the predominantly Palaeozoic Healdiacea. The merodont hingement then serves to distinguish them from genera in other Healdiacea families. Anatomically the short powerful furcal shaft with its 3 coarse claws is unique among previously described ostracodes and the penis is also characteristic. Further, the ventral segment on each of the 2 posterior legs and the segmented (?) posterior of the body are highly distinctive.

Distribution. — Caribbean, Europe, Indo-Pacific, Pacific islands, south-eastern Australia.

Time range. — Aptian to Recent.