

FIGURE 3—*Biradiolites aguilerae* Böse, 1906, PUAB 0856 589, thin sections of a bouquet included in bioclastic matrix, Cárdenas 3, scale bars=10 mm, note that scale bars are different for upper and lower figure rows: 1–3, serial transverse sections of right valves, adult specimens are cut close below the commissural plane showing myocardial elements of both valves, young specimens show different growth stages; 4, radial section (left) and oblique section (upper right) of right valve fragments; 5, oblique section of two right valves; 6, oblique section of right valve, detail of the groove for the anterior tooth; 7, transverse section of right valve, detail of the radial structures zone.

surface is nearly smooth, only growth lamellae are evident. Left valve is flat or slightly convex.

The growth lamellae of the outer shell layer of the right valve are inclined inwardly, developing a faint inner marginal groove (Fig. 3.4), and are radially folded at the ventral-posterior side. The structure of the growth lamellae is mostly compact, very small and low cells develop only in more expanded parts.

The radial structures (Fig. 3.7) are two down-and-outward folds. VRF is wide and flat and PRF is narrower, also flat, but slightly more pronounced. They are limited by three narrow and acute down-and-outward folds, particularly well developed the middle one. These folds are responsible for the five unequal ribs already mentioned at the outer shell surface; the radial structures correspond to the two flat ribs (bands).

The inner shell layer of the right valve is very thin. It thickens faintly near the dorsal side, developing two striated furrows where the teeth of the left valve glide (Fig. 3.1–3.3, 3.5, 3.6). As seen in a transverse section of the right valve close to the commissural plane, the myocardial apparatus of the left valve forms a typical radiolitic arch (Fig. 3.1, 3.2). Teeth are quadrangular in section and show striated outer margins. A wide dorsal cavity is left between them. Myophores are thin and have striated outer margins. AM extends all along the anterior inner shell margin and PM surpass the PRS. A conspicuous outer embayment is developed between PT and PM. There is no ligament ridge.

*Occurrence.*—Cárdenas 3', upper part of the Upper Member of the Cárdenas Formation, in the *Tampsia floriformis* Zone.

*Remarks.*—The external characters of the species were already described in detail, first by Böse (1906) and subsequently by Myers (1968). The myocardial apparatus and the structure of the outer shell layer are first described herein and the radial structures identified. Both authors reported that shells of all specimens collected were recrystallized. Our specimens, included in a bioclastic matrix, preserve the inner characters allowing their study and description. Previous attribution of the species to *Biradiolites* is confirmed, by its radial structures pattern, myocardial apparatus, outer shell layer structure, and absence of a ligament ridge.

*BIRADIOLITES CARDENASENSIS* Böse, 1906  
Figures 4.1–4.5, 5.1–5.10, 6.1–6.9

- 1906 *Biradiolites cardenasensis* BÖSE, p. 59, pl. 11, fig. 3, pl. 12, fig. 3.  
1906 *Biradiolites potosianus* BÖSE, p. 60, pl. 5, figs. 2, 3, pl. 11, fig. 4, pl. 12, fig. 5.  
1924 *Bournonia barreti* TRECHMANN, p. 405, pl. 26, figs. 2, 2a.  
1968 *Biradiolites cardenasensis* BÖSE; MYERS, p. 45, pl. 4, figs. 1–4.  
1971 *Bournonia cardenasensis* (BÖSE); ALENCASTER, p. 43, pl. 7, figs. 5–7, pl. 19, figs. 2–4.  
1971 *Bournonia barreti* Trechmann; CHUBB, p. 194, pl. 40, figs. 4, 5 (4 copy Trechmann).



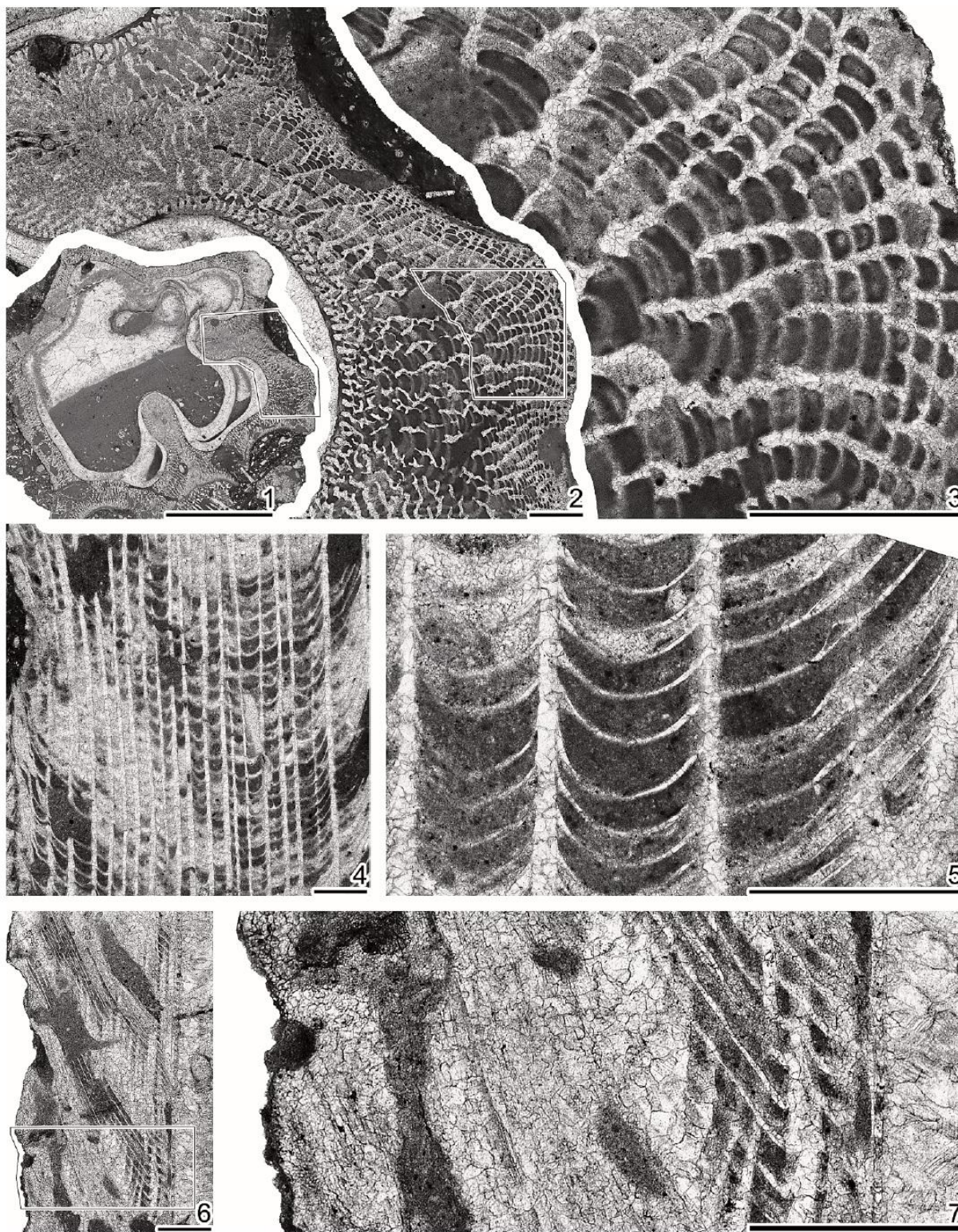


FIGURE 17—*Caribbea muellerriedi* (Vermunt, 1937), thin sections of outer shell layer of right valves, Arroyo La Atarjea, scale bars=10 mm in 1 and 1 mm in 2-7: 1-3, PUAB 81152, transverse section, enlarged area in successive figures is indicated; 4, 5, PUAB 81141, tangential section; 6, 7, PUAB 81148, radial section.



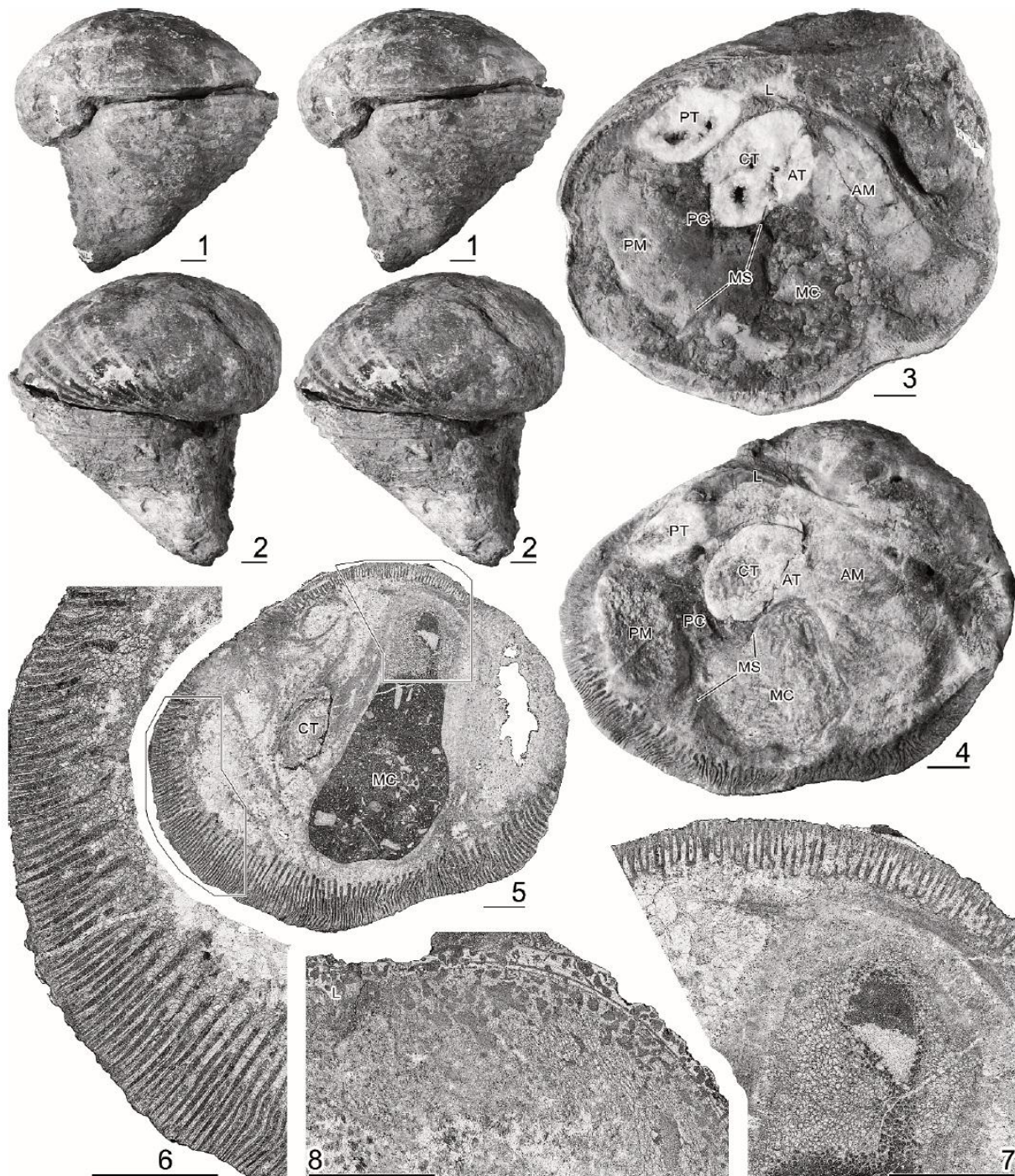


FIGURE 24—*Coralliochama gboehmi* Böse, 1906, scale bars=10 mm: 1–3, 8, PUAB 81162, Arroyo La Atarjea; 4–7, PUAB 0856 547, Cárdenas 3; 1, 2, stereo pairs of a bivalve specimen, anterior and posterior view, respectively; 3, 4, inner view of left valve, broken central tooth of right valve located in its socket; 5, transverse section (peel) of left valve, adapical view, areas amplified in following figures are indicated; 6, detail of marginal canals at posterior side; 7, detail of marginal canals and innermost canals at dorsal side; 8, transverse section (peel) of right valve at dorsal side.