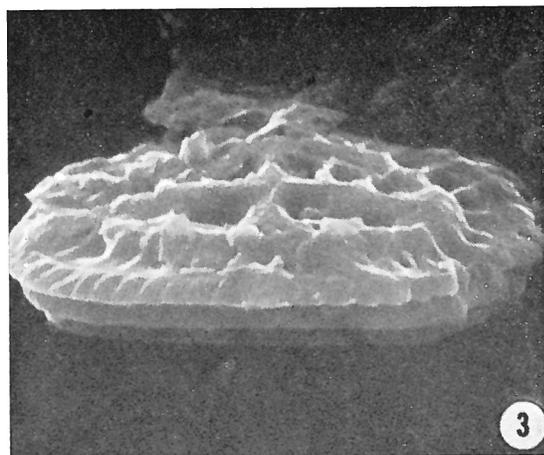
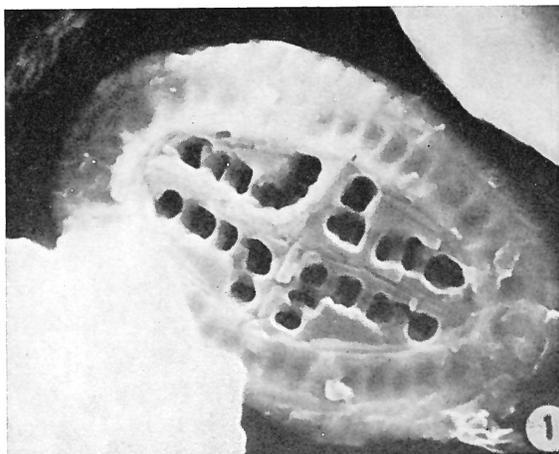


**Broinsonia furtiva** BUKRY, emend. HATTNER, WIND & WISE, 1980

- 1969, *Broinsonia furtiva* BUKRY, p. 22; pl. 2, figs. 7, 8. Univ. Kansas Paleont. Contr., Art. 51, Protista 2.  
1969, *Broinsonia parca* (STRADNER) BUKRY, partim, p. 23; pl. 3, fig. 7; non pl. 3, figs. 3-6 and 8-10. Ibidem.  
1972, *Broinsonia lacunosa*, FORCHHEIMER, p. 25, 26; pl. 2, fig. 2. Sveriges Geol. Unders., C, vol. 65.



Figs. 1, 3, 5, 6 — *Broinsonia furtiva* BUKRY emend. 1) CCC 1, sample 1603 ft, distal view,  $\times 8800$ ; 3) CCC 1, sample 1690 ft, side view,  $\times 9000$ ; 5, 6) CCC 1, sample 1613 ft, polarized and phase-contrast light,  $\times 4800$ .

**Description:**

The central area is divided by an angular cross into four large roughly triangular, perforated quadrants. Each quadrant is subdivided by crossbars oriented roughly parallel to the major or minor axes. The size and thickness of the crossbars are variable within any one specimen and they may be recessed by varying degrees below the distal level of the central area. Crossbars are usually grouped in 2's, 3's, or 4's to form rounded or elliptical recessed perforations. Generally more than

one such barred, recessed perforation is present along the minor axis within a quadrant. The central area is distinctly wider than the width of the shield margin.

Size: Average length and width of ten specimens;  $7.1 \times 5.3 \mu\text{m}$ .

**Remarks:**

BUKRY's illustrations of the holotype and paratype of *B. furtiva* show poorly preserved specimens of this taxon. He provided a much better illustration of a specimen under the name *B. parca* (pl. 3, fig. 7). Based on observations of a large number of well preserved specimens, we find this form conspecific with *B. furtiva*, and only a slight emendation of the description given by BUKRY is necessary to account for the crossbars seen in well preserved specimens. We emend his definition primarily to exclude the presence of one thick longitudinal bar per quadrant since the presence of such a bar is not consistent among all specimens.

In addition to its generally smaller size and larger central area in proportion to the shield margin, *B. furtiva* is distinguished by crossbars in the central area perforations from *B. parca* which is apparently an evolutionary descendant. Plate 3, figures 3 and 4 show a form which we consider to be transitional in this evolutionary sequence in that it has a central area reduced in size plus perforations parallel to the major axis only, reminiscent of *B. parca*; however, the presence of a set of crossbars in one of the recessed perforations clearly places this specimen within the definition of *B. furtiva* as emended. A side view of this transitional form clearly shows three shields as is characteristic for most *Broinsonia*.

*B. furtiva* is probably synonymous with LAUER's (1975) *Aspidolithus* sp. 1 and *A.* sp. 2. The shields are closely appressed and are indistinguishable from one another in the light microscope. The shield margin is distinctly narrower than the central area and does not appear as bright as the shield margin of *B. parca* in phase-contrast light. This could be a function of the narrower shield margin in *B. furtiva*. A specimen described by FORCHHEIMER (1972) may belong to this species. Her specimen, reported from an Aptian well cutting, could be a down hole contaminant.

**Type level:**

Santonian - lower Campanian.

**Type locality:**

Clubhouse Crossroads Core 1, South Carolina.

**Depository:**

Not given.

**Author:**

Hattner J.G., Wind F.H., Wise S.W., 1980, p. 21; pl. 3, figs. 1-9.

**Reference:**

The Santonian-Campanian Boundary: comparison of nearshore-offshore calcareous nannofossil assemblages. *Cahiers de micropaléontologie*, vol. 3, pp. 26, pls. 5, figs. 4, tbs. 2.