

## Subfamily ANABATHRONINAE Coan, 1964.

*Synonym: Amphithalamidae* Voorwinde, 1966 (not of Ponder, 1965).

Shell small, usually solid, variously sculptured or smooth. Protoconch typically pitted or stippled in spiral series. Aperture oval or circular, very weakly channelled, or not at all. Operculum thin to rather thick, transparent, oval; nucleus small, indistinct; columella edge frequently thickened. Radula usually with rather large cusps on central and lateral teeth, a long outer portion on lateral. Animal with ciliated, club-shaped, cephalic tentacles; snout short. Foot with sole gland, with or without anterior and posterior mucous glands, the latter (when present) does not extend into head. No caudal or pallial tentacles. Male with a coiled penis attached in the mid-line of the body; prostate closed. Female pallial duct with a ventral channel and one operture. No jaws, oesophageal glands present; crystalline style in style sac; stomach small. Micro detritus feeders.

Genus ANABATHRON Frauenfeld, 1867 (*A. contabulatum* Frauenfeld, 1867; monotypy).

*A. contabulatum* is a tiny, solid, red-spined shell (Pl. 3, Fig. 5), very similar to some *Scrobs* species, such as *S. hedleyi* (Suter) (Pl. 3, Fig. 1) in general appearance and size. The Australian species included in *Anabathron* appear to be a largely natural group. The shell of the type species is small, solid and imperforate, with a carinated shoulder, a thickened oval aperture which is slightly channelled above, and a dome-shaped protoconch sculptured with spiral rows of small punctures as in *Scrobs* and *Estea*.

When species of *Anabathron* and *Scrobs* are compared, the relationship is obvious, the only difference being the deep cleft between the aperture and the body whorl in *Scrobs*, this being represented by only a narrow groove in *Anabathron*. *Scrobs hedleyi* and *S. angulata* Powell also have a carinate shoulder, and this feature alone is clearly not of generic importance. The differences between *Scrobs* and *Anabathron* are rather minor but *Scrobs* may be retained as a full genus until more information can be obtained on *Anabathron*. The operculum of *A. contabulatum* was examined and found to be very similar to that of *Scrobs hedleyi*.

Operculum (*A. contabulatum* Little Coogee Bay, N.S.W., Pl. 3, Fig. 6) oval, rather thick, transparent, flat, yellow. Columella edge fairly straight, a thick ridge just internal to it, which has a raised lump with a small thick pad behind just to right of small nucleus. Outer marginal area broad. Sculpture of fine growth lines, minute wrinkles on outer surface and on indistinct muscle insertion area. Raised area on the columella edge lies against outside of foot (i.e. outer face not embedded in the muscles).

The New Zealand shell, *Rissoa foliatum* Suter was placed in *Anabathron* by Iredale (1915). Since then Finlay (1924) and Powell (1927) have regarded this species as typical of the genus and described its features as being those of *Anabathron*. However, *foliatum* is completely unlike *A. contabulatum* and is, in fact, a *Merelina*, having all the features of that genus. It can be distinguished from other species of *Merelina* by the fine, sharp axial ribs, which are raised into minute projections as they cross the single large spiral cord on the spire whorls. The protoconch has about five strong spiral cords. The body whorl has four spirals, two of these on the base. The aperture is obliquely oval and internally duplicated, with a fairly strong posterior canal and a very strong varix. It only resembles *Anabathron* in the outline of the whorls, which are distinctly and sharply angled (by the single spiral rib), a feature hardly worthy of generic importance.

Genus AMPHITHALAMUS Carpenter, 1865 (*A. inclusus* Carpenter, 1865; monotypy).

Though the shell of *Amphithalamus* is generally very similar to that of the *Scrobs* group, the protoconch is sculptured differently. Fine spiral threads and fine axials give the protoconch of *Amphithalamus* a minutely pitted appearance whereas that of *Scrobs* and *Estea* is sculptured with spiral rows of exceedingly minute punctures. *Notoscrobs* has a pitted protoconch, but in the type species (*N. ornatus*