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NOTES ON SOUTH AFRICAN ANCYLIDÆ. I

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I

**Gundlachia burnupi**, new species

Pl. I, figs. 1-5; Pl. II, figs. 1-3

Shell oval, slightly wider anteriorly, the anterior and posterior margins equally rounded and the lateral margins equally curved; apex obtuse, eroded, obliterating the sculpture, situated at the posterior end of the septate portion, excentric and turned toward the right side; color pale corneous; lines of growth fine and regular; the septate portion, which is placed very obliquely to the median line of the shell and extends fully one half of its length beyond the margin of the aperture, is long and narrow, the lateral margins being parallel and the anterior and posterior margins regularly and equally rounded; the dorsum is very convex, the lateral slopes

being about equally curved; the posterior slope is short and somewhat convex; the anterior slope is slightly convex and passes directly into that of the main shell, forming a continuous slightly curved slope, which is nearly straight on the main shell; the lateral slopes of the main shell are oblique and nearly straight; the peritreme of the aperture is continuous and where it crosses the septum is raised at nearly a right angle; the aperture of the septate portion is small, convex above to correspond with dorsum of the septate portion and regularly, but not strongly curved at its junction with the aperture of the main shell; it is situated a little to the right of the median line of the main shell.

Entire shell, length 3.75 mm.

Main shell, length 3, width 2, height 1.25 mm.

Septate shell, length 1.75, width .75, height .50 mm.

Type locality: Umtwalumi, near Port Shepstone, south coast of Natal.

Type in the collection of H. C. Burnup, Maritzburg, Natal.

The unique type of this very distinct species was collected by Dr. F. G. Cawston. More recently he has found it in considerable abundance at Malvern, Natal, and a single specimen in the Mooi River at the Potchefstroom Dam, Transvaal. All of these shells are quite typical. It is quite probable that the species will be found to be of general distribution in this region. The apex of the Malvern shells is radially striate.

The animal of the type was carefully extracted and sent to Dr. H. B. Baker, of Philadelphia, Pennsylvania, for examination. He has very kindly made the accompanying drawings of the dorsal and ventral aspects of the entire animal and of the radula. In reference to these drawings, he writes: "In the specimen drawn the foot was twisted to the left so as to partially obscure the gill, which is roughly triangular. On the dorsal surface of this branchia two (2) furrows divide it into three (3) longitudinal lamellæ. The eyes are on the base of the tentacles in the antero-dorsal face of the angle. The intestine winds up into the tongue-shaped portion (mainly

liver tissue) which must lie in the first shell. The entire jaw is horseshoe shaped and almost encircles the mouth. The mouth is actually a little more elliptical than shown in the drawing as the anterior edge is slightly tilted dorsad.

“The radula of *burnupi* is extremely minute. Formula: 18-1-18; teeth evenly spaced, but the smaller, outermost teeth appear farther apart. Row shaped much as in *Uncancyllus*.

“Central: appears absolutely symmetrical with two major cusps and two divergent minor ones. (The central of *Ferrissia rivularis*, by the way, is also quite symmetrical and has two major cusps, the minor ones are practically gone and are only represented by slight projections on the outer sides of the major cusps.)

“The innermost laterals approach those of *Burnupia* in the partial coalescence of the entocone and mesocone, but the accessory ectoconals are prominent as in *Ferrissia*. The outer teeth are quite *Ferrissia*-like. The radula appears to lie between that of *Burnupia* (which I have not seen) and that of *Ferrissia*, but is closer to the latter. It has very little in common with that of typical *Gundlachia*.”

At Malvern, associated with the *Gundlachia*, was an Anacylid form, which, taken alone, would be considered a *Ferrissia*. But Dr. Baker, from an examination of the animal, states that the radula is that of *Gundlachia* and not of *Ferrissia*, so that there can be no doubt but that it is the non-septate form of *G. burnupi*.

The specimen figured measures 3.75 x 2.25 x .75 mm. It is light horn colored, nearly oval, the lateral margins being straight but diverging slightly towards the anterior margin; the anterior and posterior margins are regularly rounded; the apex is obtuse, depressed (the greatest height of the shell being slightly behind the centre), situated at about the posterior fourth of the length, somewhat to the right of the median line and slightly turned to the right; the lines of growth are regular, but vary somewhat in intensity; the anterior slope is nearly straight, slightly concave towards the margin and is

subobsoletely radially striate; the posterior slope is very short and straight from the base of apex; the lateral slopes are nearly straight, both being slightly more oblique towards the margin, the left more than the right. It differs from all of the described species of *Ferrissia* in the depressed apex and the very short posterior slope.

At the suggestion of Dr. Cawston I take great pleasure in naming the species after Mr. H. C. Burnup, who for many years has done so much for the advancement of South African conchology.

## II

### *Burnupia obtusata*, new species

Pl. I, figs. 6-7

Shell small, rather depressed, broad oval, anterior and posterior margins regularly and equally rounded, lateral margins regularly curved, the left more than the right; thin, translucent, light greenish horn color; surface with fine, regular growth-lines and with irregular radial striae, fewer and rather coarser towards the apex, more numerous and less prominent towards the margins; apex at about one-fourth of the length from the posterior margin, prominent, obtuse, nearly flat at the tip, which appears as though obliquely truncated, with a well defined apical depression and quite eccentric reaching nearly to the margin, apical punctations large; anterior slope only slightly curved; posterior slope nearly straight and only slightly oblique from the base of the apex to the margin; right lateral slope oblique and straight; left lateral slope slightly convex.

Length 2.75, width 2, height .8 mm.

Type locality: Bishopstowe Road, Maritzburg, Natal. Second stream.

Type: No. 84772, Coll. Walker.

Although I have seen but a single specimen of this small species, it is so entirely different from any that have been

described that I feel certain that it is distinct. It is possible, of course, that it may not be fully mature, but I have been quite unable to approximate it to the young of any of the larger species. It is peculiar in its depressed, almost sub-circular form and in the flattened, truncated tip of the apex. Compared with *B. vulcanus*, which is about of the same size, it differs in shape, the position and peculiarities of the apex and the smoother surface.

### III

#### *Burnupia caffra* (Krss.)

Pl. II, fig. 4

Shortly after Dr. Baker's notes on the radula of *Gundlachia burnupi* were received, I sent to him alcoholic specimens of this species, from which he made the accompanying figure of its radula. His notes are as follows: "Radula of a specimen from Imputshini, near Maritzburg, Natal; central, 1st, 3rd, 7th, 11th, 14th and 21st teeth. Formula: 22-1-23; the hairline at the right gives the shape of a transverse row with the positions of the central, 7th, 14th and 21st teeth marked. The scale indicates a length of 10 microns (.01 mm.).

"This radula is remarkable in the large size of the two inner cusps of its symmetrical central and in the accentuation of the innermost teeth which are the largest in the entire series. As will be noted from the hairline (and from your figures) the inner seven teeth actually occupy more space than do those from the 7th to the 14th or from the 14th to the 21st. This is most closely approached by *Hebetancylus*, in which the teeth are almost equally spaced; the heavy backs of the inner teeth and the prominence of interstitial cusplets are also similar in the two groups. The entocone and mesocone tend to fuse as in *Ferrissia* s. s., but in that group the largest teeth are the peculiar elongate ones far out from the center. In the present radula, the second tooth begins to serrate the ectocone, the 8th acquires an interstitial cusplet between the entocone

and mesocone, while the 10th breaks up the entocone. Although the ectocone itself finally splits into many cusps, none of the larger teeth has more than 2, well defined, ectoconal accessories; but, sometimes, one of these splits into two smaller needles.

“Although this radula is quite distinct and divergent from any others examined, it appears much closer to those of *Hebetancylus* or *Uncancylus* than to those of *Ferrissia*, *Lævapex* or *Kincaidella*. In all three of the latter groups, the largest and best developed teeth are the elongate, comb-like ones some distance out from the center.”



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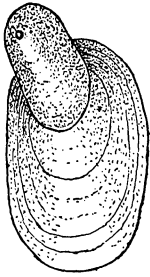
PLATE I

FIGS. 1-3. *Gundlachia burnupi* Walker. Type.

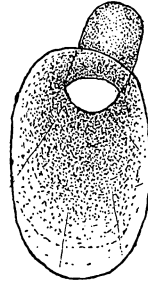
FIGS. 4-5. *Gundlachia burnupi* Walker. Non-septate form.

FIGS. 6-7. *Burnupia obtusata* Walker. Type.

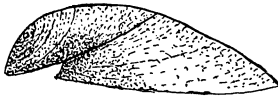




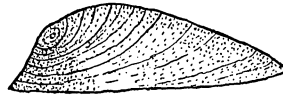
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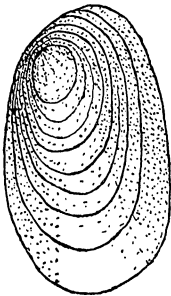
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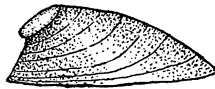
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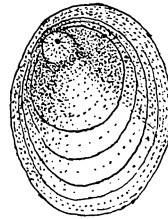
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PLATE II

- FIG. 1. *Gundlachia burnupi* Walker. Animal, ventral view.  
FIG. 2. *Gundlachia burnupi* Walker. Animal, dorsal view.  
FIG. 3. *Gundlachia burnupi* Walker. Radula.  
FIG. 4. *Burnupia caffra* (Krss.). Radula.

