

ON THE ANATOMY OF *ACHATINA FULICA* (FÉRUSAC)

by

W. S. S. VAN BENTHEM JUTTING
(Zoological Museum, Amsterdam)

The anatomy of the Giant African Snail, *Achatina fulica* (FÉR.) (fig. 1), so far has been only insufficiently investigated. Various papers have been published on its life history, its distribution (including its introduction into the Malay Archipelago), its destructiveness, its control and some points of its digestion, but only a small number of publications treat details of its anatomy.

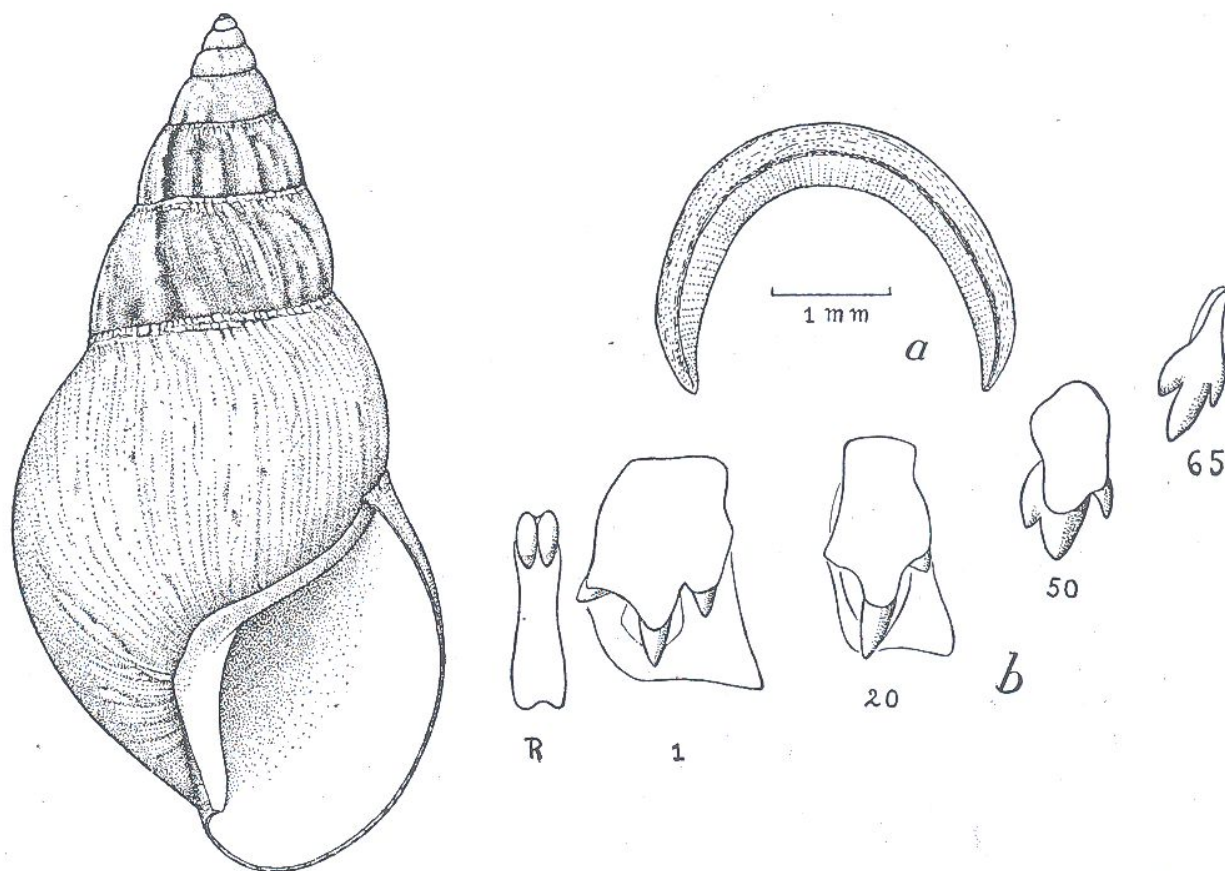


Fig. 1. *Achatina fulica* (FÉR.), $\times \frac{2}{3}$. Height 137 mm. Very large specimen, Purwakarta (W. Java), 19.x.1948, Corp. OLDENKIRCHEN leg. — Fig. 2. Mandibula (a) and radula elements (b), after a specimen from Bogor (W. Java).

With so few data it occurred to me that a re-dissection of *Achatina fulica* would not be out of place. For that purpose I asked and obtained a few animals collected by Mr L. J. M. BUTOT in the environs of Bogor (Buitenzorg), West Java, in March 1950.

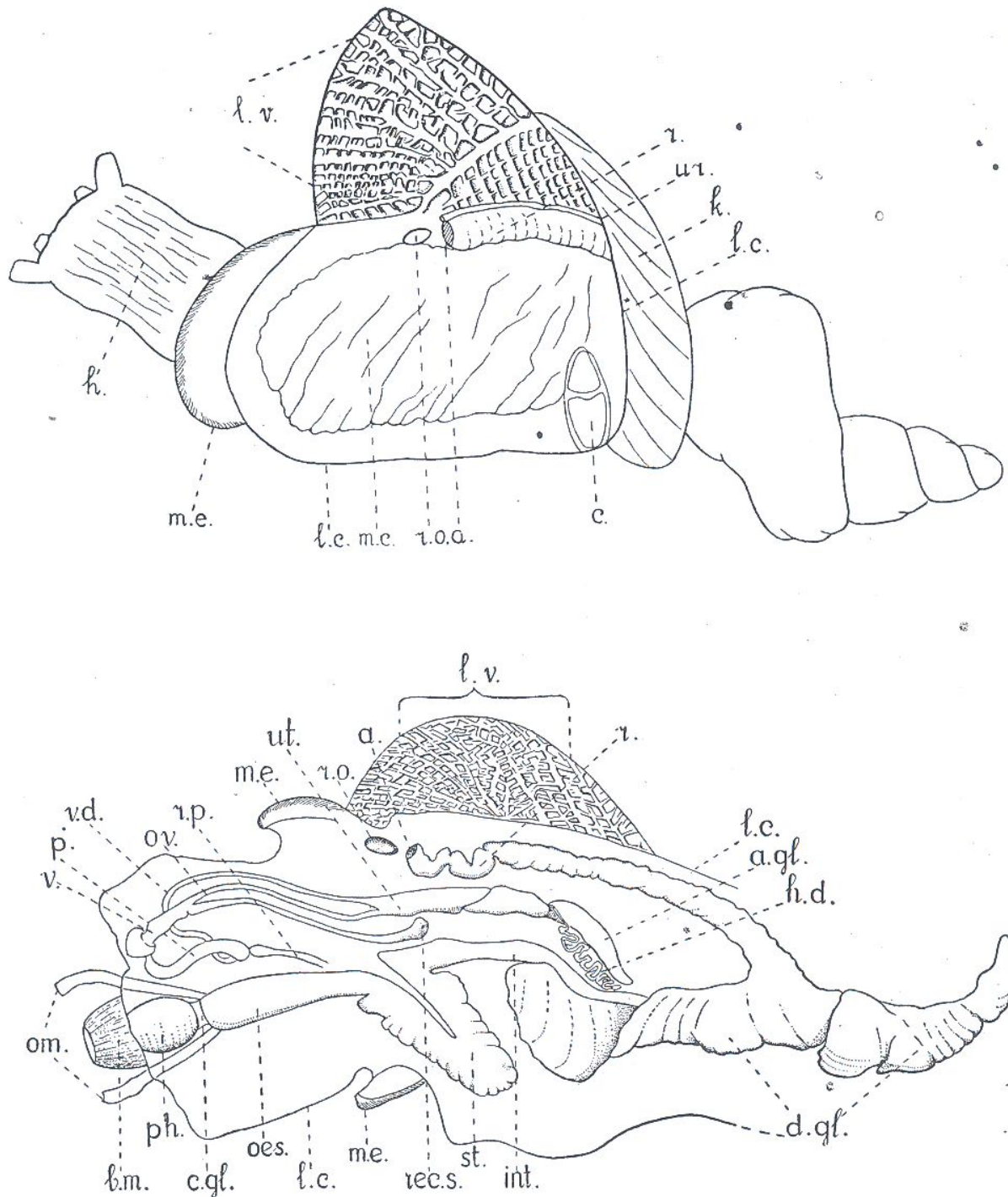


Fig. 3. *Achatina fulica* (FÉR.), showing anatomical details. Explanation of figures: a. anus. — a. gl. albumen gland. — b.m. buccal mass. — c. heart. — c. gl. cerebral ganglion. — d. gl. digestive gland. — h. head, with tentacles. — h.d. hermaphroditic duct. — int. intestine. — k. kidney. — l.c. line of cutting. — l.v. lung vein, vascular network against interior of mantle skirt. — m.c. mantle cavity (irregularly plicated bottom). — m.e. mantle edge. — oes. oesophagus. — om. ommatophores. — ov. oviduct. — p. penis. — ph. pharynx. — r. rectum. — r.o. respiratory orifice. — rec. s. receptaculum seminis. — st. stomach. — ur. ureter. — ut. uterus. — v. vagina. — v.d. vas deferens.

All the specimens were neatly stretched by submersion in water, before fixation in alcohol 70%, so that the general anatomy is as ideal for study as possible. Before fixation the shells were cracked in order to let the liquid penetrate satisfactorily into the tissues of the spiral whorls. Therefore the exact size of the shells cannot be established, but the height is about 70-80 mm.

Of the two anatomical sketches (fig. 3) the uppermost figure represents the animal (removed from the shell) after the dorsal side of the pulmonary cavity was cut open and thrown over to the right side. The bottom of the pulmonary cavity is still intact.

In the lower figure the ventral wall of the pallial chamber has also been removed so that we now look down on the other interior organs.

The mandibula (fig. 2a) is horseshoe-shaped without a median projection.

The radula (fig. 2b) is composed of about 120 transverse rows of teeth. Each row bears a small median tooth, the rhachis, on either side of which 70 latero-marginals are symmetrically disposed.

Compared with the family of the *Helicidae* the interior organization, especially of the genital tract, in the *Achatinidae* is remarkably simple. There are no accessory organs like flagellum, dart-sac, dart-glands and dart, or digitiform appendages. (Haplogama).
