

**DROPLETS FROM THE PLANKTON NET**  
**XI. A NEW TYPE OF *LITTORINA-CAPSULA*\***

TAKASI TOKIOKA and TADASHIGE HABE

(Fig. 11)

A new type of egg capsule of littorinid was found on a slide under the microscope while a plankton sample hauled near the Laboratory in Tanabe Bay was studied. It differs distinctly from any form hitherto recorded in its gear-like outline.

It is roughly disc-shaped, ca.  $160\mu$  in diameter and  $50\mu$  in thickness, and bears an appearance like a gear consisting of 21 teeth. The upper side swells up  $40\mu$  in the form of a cone which is provided with two concentric ridges and probably has an opening at the tip. The under side is quite flat. The capsule is colourless and contains an egg, ca.  $80\mu$  in diameter.

The present new type is named *Littorina-capsula hagruma* nov. from its characteristic gear-like appearance (Haguruma, *Jap.* = gear).

We have got three types of *Littorina-capsula* from the Japanese waters, which show each a characteristic feature common to all of them; the presence of a few concentric ridges on the upper surface of the capsule. Egg capsules of littorinids known by this date may be classified into the following three groups:

(1) Helmet-shaped.

*Littorina littorea* L. (LEBOUR 1935)

*Littorina pintado* WOOD (OSTERGAARD 1950)

(2) Simple drum-shaped.

*Littorina (Melaraphe) neritoides* (MONTAGU) (LEBOUR 1935)

*Tectarius muricatus* (LINNÉ) (LEBOUR 1945)

(3) Drum-shaped, with ridges on the swollen upper side.

*Littorina zigzac* "DILLWYN" (GMELIN) (LEBOUR 1945)

*Echinella trochiformis* (DILLWYN) [= *Tectarius (Nodilittorina) tuberculatus* (WOOD)] (LEBOUR 1945)

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\* Contributions from the Seto Marine Biological Laboratory, No. 202.

*Littorina-capsula habei* (TOKIOKA 1950)

*Littorina-capsula multistriata* (TOKIOKA 1950)

*Littorina-capsula hagruma* nov.

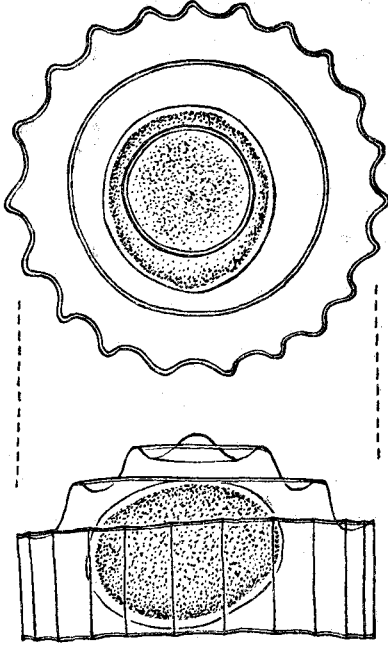


Fig. 11. *Littorina-capsula hagruma* nov.  $\times 300$

Three Japanese types are all included in the third group and form in it a sub-group on account of the existence of *concentric* ridges instead of *spiral* ones in two forms described by LEBOUR on Bermudian littorinids. These are not yet combined with any species of Japanese littorinids, although *Tectarius (Nodilittorina) granularis* (GRAY) is the commonest species in this region. The identification of Japanese littorinids seems to need reconsultation, if the shape of egg capsule means an important systematic significance.

#### REFERENCES

- LEBOUR, M. V. (1945): The eggs and larvae of some prosobranchs from Bermuda, Proc. Zool. Soc., Pt. IV, Vol. 114, pp. 462-489, Figs. 1-43.
- TOKIOKA, T. (1950): Droplets from the plankton net. V. New names for egg capsules of Littorinid gastropods, Publ. Seto Mar. Biol. Lab., I (3), pp. 151-152. Fig. 6.

XII. RECORD OF *RELUZIA MONTROUZIERI* BRAZIER NEAR SETO

TADASHIGE HABE and TAKASI TOKIOKA

(Figs. 12 and 13)

A specimen of *Recluzia montrouzieri* BRAZIER was offered to our examination by the courtesy of Mr. S. KINOSITA, a conchologist in the town of Sirahama. This floating snail was found on the shore along this town in the summer of 1950, being dead, but not yet losing its soft body.

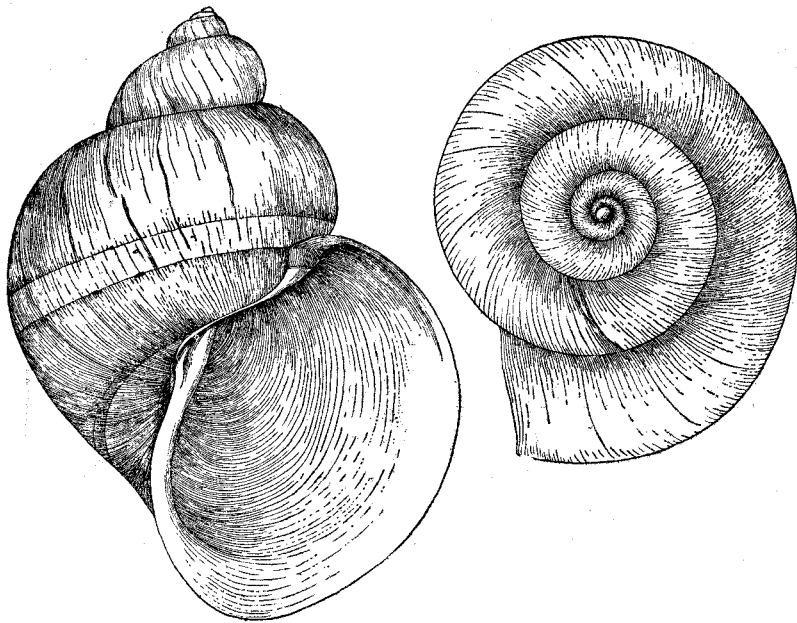


Fig. 12. *Recluzia montrouzieri* BRAZIER.  
Left—Front view of shell, Right—Apical view of shell.  
× ca. 6.

*Recluzia montrouzieri* BRAZIER

1871 *Recluzia montrouzieri* BRAZIER, Jour. de Conchyl., 19, p. 334.

1872 *Recluzia montrouzieri* BRAZIER, Jour. de Conchyl., 20, p. 57, Pl. I, fig. 8.

Shell ovate-oblong, thin, fragile, yellowish brown in colour except the

embryonal shell which is brown; spire elevated; whorls five in number, each whorl very convex and suture decidedly deep; body whorl very large, occupying about four-fifths of the shell length; surface with the weak growth lines and very faint several spiral threads on the peripheral and basal areas; aperture also large and ovate in shape; outer margin roundly arcuate and simple, columellar margin white, thickened and reflexed; umbilicus very narrow and deep, but in the perfect specimen may be nearly closed by the hyaline membrane caused by the dilation of the columellar margin; parietal wall enamel weakly.

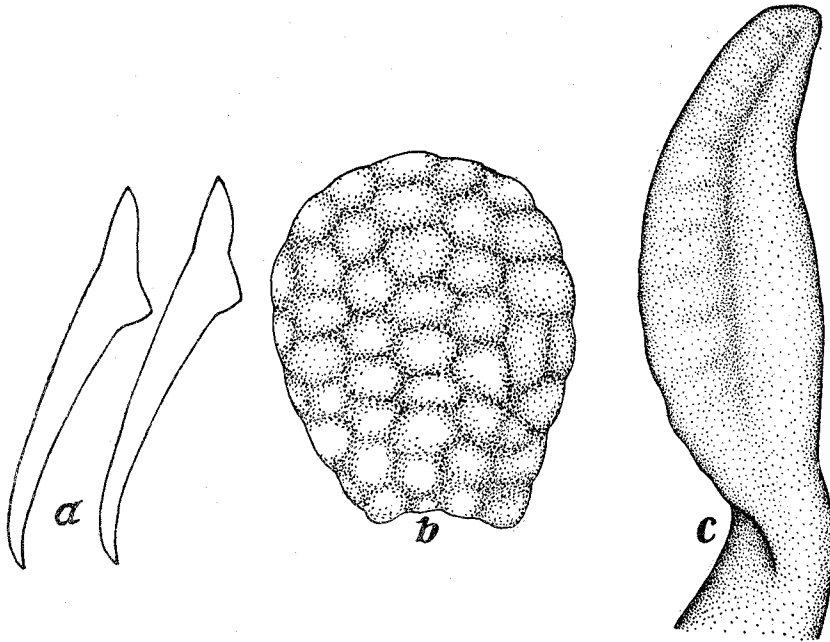


Fig. 13. *Recluzia montrouzieri* BRAZIER.  
 a—Two teeth from radula, magnified.  
 b—Float, enlarged.  
 c—Foot, enlarged.

Height 14.2 mm, breadth 10 mm, height of aperture 9.1 mm, breadth of aperture 6.8 mm.

Radula of the ptenoglossate type, all the teeth are elongated and attenuated and incurved at the distal end (Text-fig. 13 a). Each transverse row consists of about forty teeth which increase in size outwardly, measuring ca. 0.18 mm at the outer-most one. Foot spatulate, ca. 3 mm in length. Float roundly oval in outline, 9 mm long  $\times$  7 mm wide  $\times$  3–4 mm thick and dark brownish in colour. It consists of many small, 0.7–1 mm in diameter, permanent froths and embraced tightly with a thin 10 mm long string stretching out of the foot.

It seems very interesting to examine the weight of this floating snail.

Weight of shell.....	0.118 gr.
Weight of soft body including float...	0.186 gr.
	0.304 gr.

A small float of 0.22 cc in volume seems to be enough to keep floating of this snail, ca. 0.3 gr. in weight in the air.

All the specimens belonging to the genus *Recluzia*, collected from the Japanese waters by this date, in Sagami Bay, Kusimoto and Sirahama in southern Wakayama Pref. in Honsyu and Kagosima Pref. in Kyusyu, have been recorded as *R. bensoni* A. ADAMS which was reported originally from China Sea off Formosa. The present specimen is, however, quite disagreeable with *R. bensoni*, the type specimen of which is preserved in the British Museum and figured by Mr. T. CH. YEN, but seems rather to conform well with *R. montrouzieri* BRAZIER from Island of Art, New Caledonia, in the appearance of the shell which has higher spire than in *R. bensoni* and has the nearly closed umbilicus.