

**Instituut voor Zeewetenschappelijk onderzoek**  
**Institute for Marine Scientific Research**  
Prinses Elisabethlaan 69  
8401 Bredene - Belgium - Tel. 059/80 37 15

Overgedrukt uit *Basteria*, Vol. 15, No. 1 en 2, Mei 1951.

## **Radulae as an Aid to the Identification of the Zonitidae**

by

**BERNARD VERDCOURT**

Zonitidae are easily the most confusing of the European land snails to identify. Even when they are adult care has to be exercised and juveniles are often not identified. If they are alive they are usually easily referable to at least the correct genus by an examination of the radula. The identification is of course much simplified if a complete reference collection of radulae is available, but otherwise reference must be made to the published figures. It is then rapidly discovered that many of these are too poor for critical use with the exception of those of SCHEPMAN (1882) which H. BAKER, who is undoubtedly the best draughtsman of Zonitid radulae, has described as being remarkably accurate for their period. Five drawings drawn by the writer from personally collected material are given here to indicate how different are the radulae of the genera and it is hoped that they will be of value in identifying the genera of very young Zonitids (Fig. 1). Only the central teeth are figured, these being of the most value

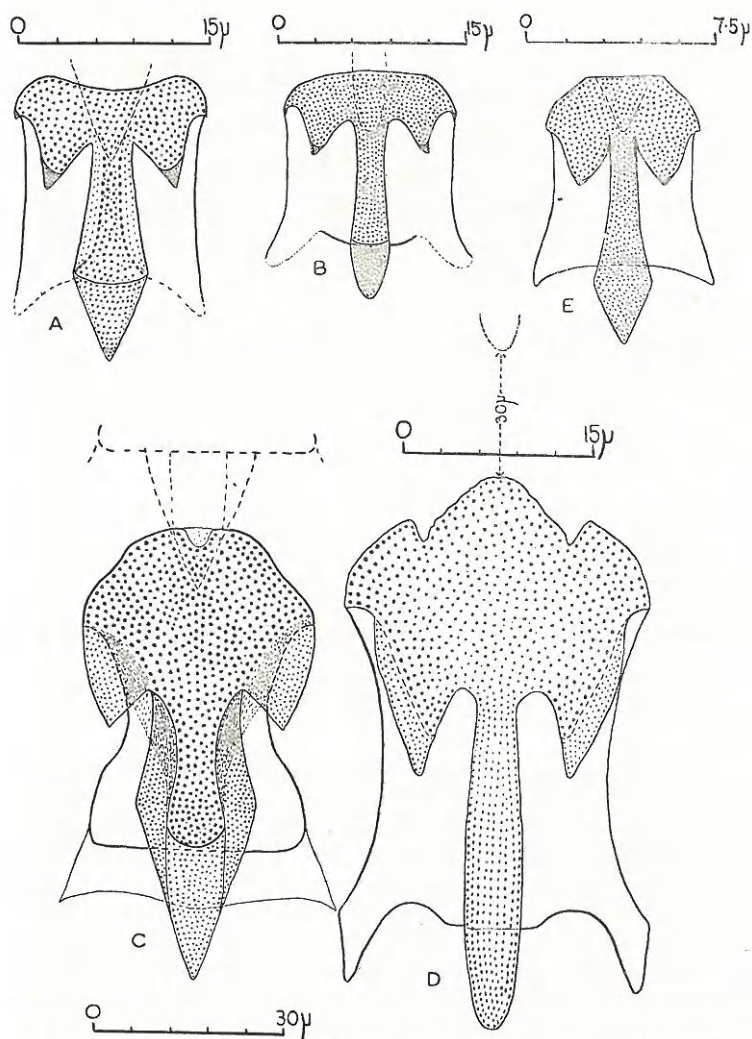


Fig. 1 Central teeth of: A, *Zonitoides excavatus* (Bean ex Alder), Wavendon Heath; B, *Vitrea crystallina* (Müll.), Kings Wood, Heath and Reach; C, *Retinella nitidula* (Drap.), Fancot; D, *Oxychilus helveticus* (Blum), Bedfordshire; E, *Euconulus fulvus* (Müll.), Wavendon Heath. All the localities are in Bedfordshire, England.

for diagnostic purposes. This is due to the fact that any evolutionary changes affect the central teeth first and the marginals last. All the drawings are made from the youngest part of adult radulae and are thus comparable with the teeth of juveniles. The older adult teeth have many of the cusps worn down. Very young shells of *Vitrina* are



Fig. 2. *Vitrina pellucida* (Müll.), Fancot, Bedfordshire, apex of juvenile shell showing sculpture,  $\times 74$ .

also a little deceptive but may readily be recognised as being of that genus by the very distinctive sculpture of the first few whorls. This is depicted in Fig. 2. BOWELL (1927) gives a photograph and description of the radulae. By the employment of microscopical methods the generic and even the specific identity of juvenile molluscs can often be determined.

#### REFERENCES

- BOWELL, E. W., 1927. The radula of *Vitrina maior*. Proc. Mal. Soc., vol. 17, pp. 145—146, pl. 11.  
SHEPMAN, M. M., 1882. Die Zungen der Hyalinen. Jahrb. D. Malak. Ges., vol. 9, pp. 236—243, pls. 6—8.

