

served in other crustaceans<sup>1,2</sup>. Presently, cumulative efficiency<sup>4</sup>, with which the different substances of the yolk are utilized, is also variable (88.60% for the organic matter, 84.39% for fat and 96.36% for protein).

The gross energy conversion during embryonic development calculated from table 2 as:

$$\frac{\text{Energy value of egg in stage I}}{\text{Energy value of juvenile in stage IV}} \times 100,$$

yielded a value of 87.11% for *O. senex senex*, which means that the total energy loss during embryogenesis is 12.89%. It is interesting that gross energy conversion during embryonic development of this crab (in spite of the highly abbreviated development) is higher than that reported for other freshwater decapod crustaceans<sup>1,5,6</sup>. This may have an ecological significance.

27 July 1984

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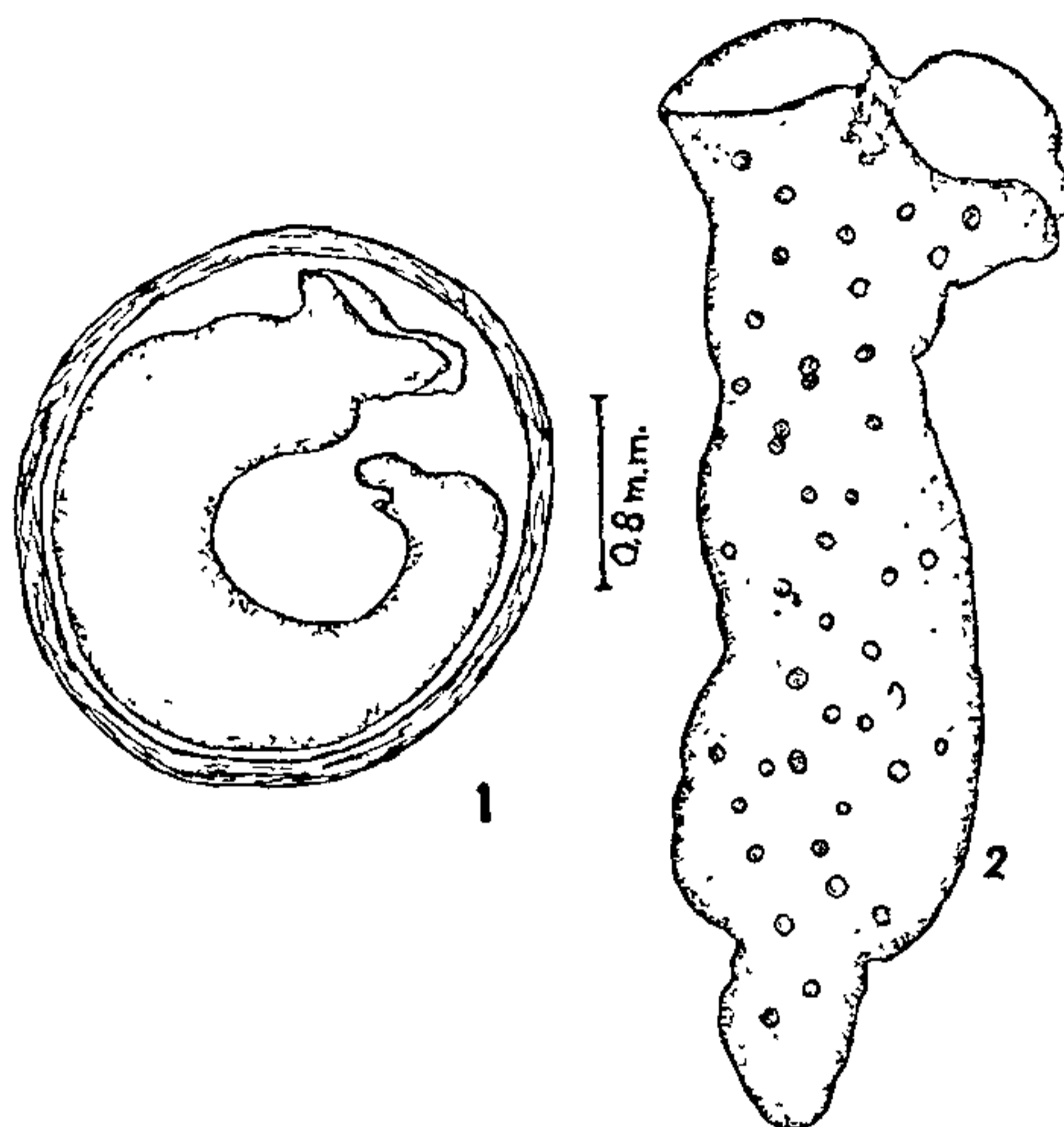
#### NOTE ON METACESTODE OF *DUTHIERSIA EXPANSA*, 1873

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*DUTHIERSIA EXPANSA* Perrier<sup>1</sup>, is a cestode found in the gut of *Varanus* sp. in India. Its morphology has been described by Southwell<sup>2</sup> and Woodland<sup>3,4</sup>. However, no information regarding the metacestode of the worm is available. Since we have collected its larva, for the first time, it is recorded here.

Twenty one cysts (4 + 17) were found attached to



Figures 1–2. Cyst of *Duthiersia expansa* (drawn from live specimen) 1. Cyst, 2. Larva.

the intestine of two *Rana tigrina* Daud, examined at district Meerut. Cyst (figure 1) of 2.05–2.31 mm in size, is small, thick walled, stiff and contains a fluid having rounded, large globules. Young cyst contains a larva having a poorly developed scolex and short, elongated body without segmentation. In some, the scolex is marked off from the body, while in others it is prominent with a few lobes. In an advanced developmental stage (figure 2), the scolex is completely formed. It is characteristically triangular with frilled, crenated margins and composed of two bothria which are united in the middle, 0.73 × 1.98 mm in a larva of 3.69 × 1.52 mm. The whole body is marked by a number of round to oval excretory corpuscles.

The larva bears close similarities with the cestode genus *Duthiersia* Perrier<sup>1</sup> in shape of scolex. The adult worm is found in the intestine of *Varanus* sp. and represented by only two species viz. *D. expansa* and *D. fibriata*<sup>5</sup>, Mont et Crety<sup>4,6</sup>. Of these, only *D. expansa* has been reported from *Varanus* sp. in India<sup>7</sup>. We have also collected a few specimens of *D. expansa* from the intestine of *Varanus* sp. at district Meerut. Both the larva and adult resemblance closely particularly in the shape and structure of scolex. Therefore, we tentatively regard the present cestode larva as of *D. expansa*.

30 July 1984

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## ANNOUNCEMENT

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### SHANTI SWARUP BHATNAGAR AWARD FOR 1983

The Shanti Swarup Bhatnagar prize for Science and Technology was instituted in 1957 by the Council of Scientific and Industrial Research in memory of its first Director, the late Dr S. S. Bhatnagar. The prize is given for outstanding research contributions made primarily in India. Only scientists and technologists below 45 years of age are eligible for consideration.

Each award carries Rs. 20,000 in cash and a scroll.

The following twelve scientists and technologists have been awarded the Shanti Swarup Bhatnagar prizes in Science and Technology for 1983.

*Physical Sciences:* Dr Shyam Sunder Kapoor, Project Director, Pelletron Project, Bhabha Atomic Research Centre, Bombay, Prof. Ramamurthi Rajaraman, Centre for Theoretical Studies, Indian Institute of Science, Bangalore.

*Chemical Sciences:* Dr Samaresh Mitra, Chemical Physics Group, Tata Institute of Fundamental Research, Bombay, Prof. Naba K. Ray, Department of Chemistry, University of Delhi.

*Biological Sciences:* Prof. Govindarajan Padmanabhan, Department of Biochemistry, Indian Institute of Science, Bangalore.

*Engineering Sciences:* Dr K. Kasturirangan, Project Director, Indian Remote Sensing Satellite Project, ISRO Satellite Centre, Bangalore, Prof. S. P. Sukhatme, Professor of Mechanical Engineering, Indian Institute of Technology, Bombay.

*Medical Sciences:* Dr Indira Nath, Department of Pathology, All India Institute of Medical Sciences, New Delhi.

*Mathematical Sciences:* Prof. Inder Bir Singh Passi, Centre for Advanced Study in Mathematics, Punjab University, Chandigarh, Prof. Phoolan Prasad, Department of Applied Mathematics, Indian Institute of Science, Bangalore.

*Earth Sciences:* Dr Harsh K. Gupta, Director-in-Charge, Centre for Earth Science Studies, Trivandrum, Dr Syed Mahmood Naqvi, Scientist, National Geophysical Research Institute, Hyderabad.

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