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UNUSUAL HATCHING IN SILKWORM *BOMBYX MORI* (L)

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WHEN eggs 'black boxed' are exposed to light, hatching normally takes place almost instantaneously and is completed within 30 to 60 min. The fully developed embryo complete as a larva in all respects, wriggles and pushes the micropylar region. A small hole is created around which the larva nibble the egg chorion, making the hole large enough for wriggling out. In this process, the head comes out first and after anchoring on the substratum with thoracic legs, the whole body is pulled out (figure 1a).

However, an unusual hatching was accidentally seen in the silkworm *Bombyx mori* where instead of the head, the caudal and then the abdominal part of the larva came out of the egg shell. A close examination showed that all such larvae were entangled with their heads inside the shell and only the abdominal part was free (figure 1b). The chances of the hatched larvae getting entangled in the way seen were ruled out, since efforts to get the same by mixing empty shells and newly hatched larvae failed. The possibility of mutants was also ruled out, since such larvae released artificially by breaking the shells when reared for more than 2 generation failed to reproduce the same effect even at a very low frequency.

Further observations on hatching indicated that this behaviour, though not normal, is also not rare. In 'sheet eggs' since the eggs are fixed to a substratum, even if the larvae come out in a reverse direction can anchor firmly to either the next egg or the substratum and pull themselves out of the egg shell. This is not possible when the eggs are in loose form and spread in a thin layer on smooth paraffin paper for hatching and brushing. In the case of loose eggs, a rough substratum is, therefore, desirable during hatching and brushing.

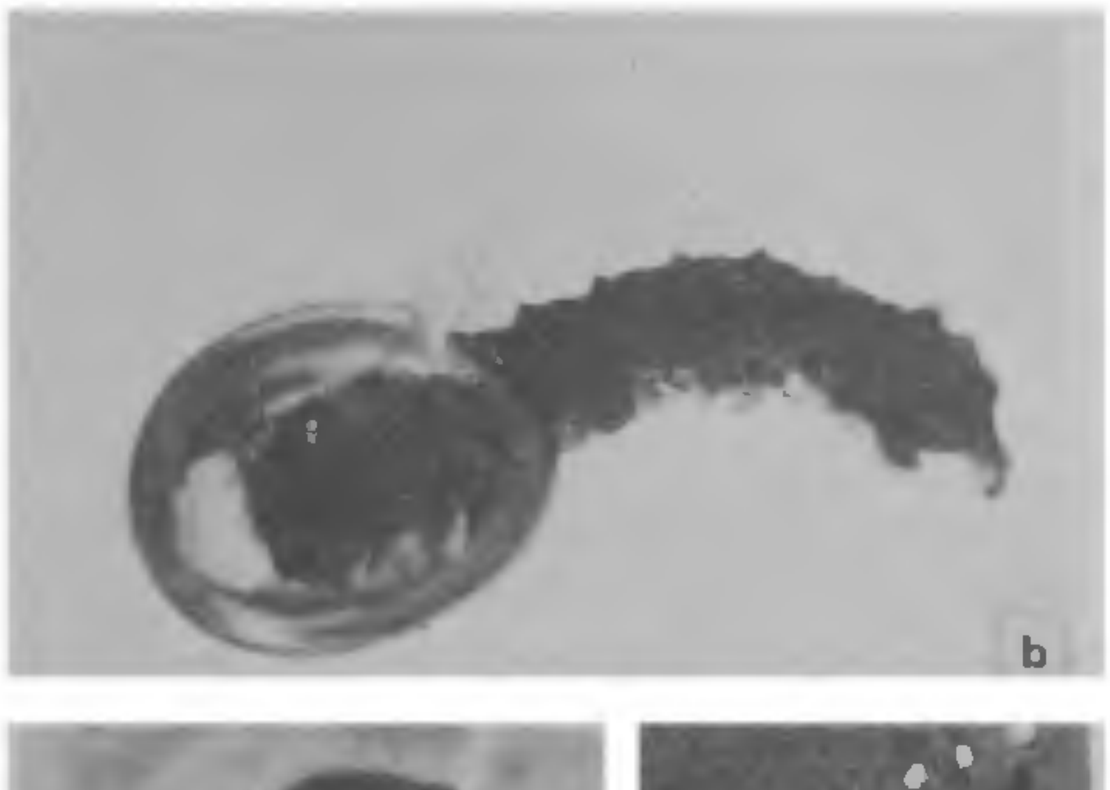

Figure 1a–c. a. Normal hatching in silkworm eggs with the head portion coming first; **b, c.** Abnormal hatching with the abdominal part of the body coming first.

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