

advantage offered by the aseptic methods of micropropagation over conventional methods is that in a relatively short time, a number of true-to-type plants can be produced starting from a single individual. Thus the protocol described here (Figure 2) could be of considerable commercial importance for large-scale propagation of *Ixora singaporensis*, an important ornamental. Figure 3 shows a plantlet in soil.

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A rare embryogenesis in hen's egg

In a hen's egg obtained from a local poultry farm and incubated in the laboratory for 36 h, a rare embryogenesis was observed (Figure 1). Two embryos developed from the blastodisc. One showed 13 somite stage (36 h) and the other 8 somite (28 h) stage. Two embryos were at right angles to each other and separated at the primitive area. In the 36-h-embryo, brain differentiated into fore (F), mid (M) and hind (H) brain. Only right optic vesicle (OV) developed fully. Infundibulum and dilated heart (Ht) bent to the right could be noticed. Proamnion (Pr), neural tube (NT), notochord (Nc), sinus rhomboidalis (Sr) and also sinus terminalis (St) are present. In the 28-h-embryo, cephalic

region and sub-cephalic (SC) regions were clearly noticed. A dilated pocket in right on cephalic end is seen. Neural tube is differentiated into fore (F), mid (M) and hind (H) region of the brain. Anterior neuropore (NP) is also noticed. Proamnion, notochord, margin of intestinal portal vein (VI), extra-embryonic vascular plexus and blood islands are also seen.

Development of two embryos in birds has been described by some authors in the past. Earlier, Dareste¹ described double blastoderms in bird egg. He also noted that in some cases they were widely separated on the surface of the yolk. Flourens², Baer³, Panum⁴ and Nalbandov⁵ also described presence of double blastodisc in birds. Levi⁶ described the possibility of twins from a single-yolked egg. Torrey⁷ described polyspermy in chick as well as in other birds. Though only one of them enter by fusing with egg membrane, the remainder are shunted in the yolk where they become subsidiary nuclei. Maturation proceeds in oviduct as far as the metaphase of the second meiotic division, then pauses and awaits the entrance of the fertilizing sperm. In view of these, possibility of formation of two blastoderms cannot be ruled out, one of which showed delayed development.

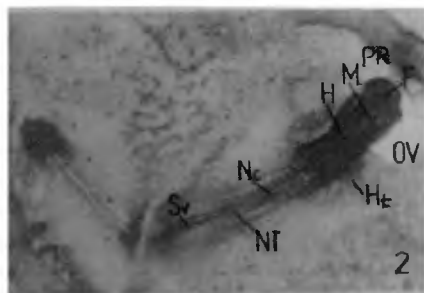


Figure 1. High power photomicrograph of the two embryos (40×).

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