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NOTE ON THE DEVELOPMENT OF VESICULAR-ARBUSCULAR MYCORRHIZA— *ENDOGONE FASICULATA* IN COCONUT ROOT

Of the various mycorrhizas reported the most widespread is the so-called vesicular-arbuscular type (Nicolson, 1967). Gerdemann (1968) made a review on this and later more than hundred papers have been published on this aspect, reviewed by Mosse (1973). The long standing speculation about the identity of vesicular-arbuscular endophytes (Gerdemann, 1968) has largely been resolved in favour of one or another species of Endogone. Improvement in growth and also the uptake of increased phosphate was observed in many plants having micorrhizal association (Mosse, 1973). Occurrence of the vesicular-arbuscular mycorrhiza was noted in the roots of healthy and diseased coconut palm while studying the lower form of fungi associated with coconut root.

Coconut root materials were collected from different places in Kerala. Longitudinal sections of these were stained by boiling for one minute in acid fuchsin-lacto-phenol, destained and mounted in clear lacto-phenol for microscopic examinations. The hyphae on the root surface were broad with globules inside, measured 12 to 16 mμ in width whereas the hyphae in the inner cortical cells measured 2 to 8 mμ in width. The mycelium on the surface as well as inner cells appeared swollen at the apical portion to form vesicles ranging in size from 40 mμ to 100 mμ (Fig. 1). Dark thick-walled vesicles were also seen on the surface of the root. This was identified as *Endogone fasiculata*. This appears to be the first report on coconut.

This fungus was also observed in the roots of *Cassia tora, Melothria* sp., *Phyllanthus neuri, Solanum nigrum, Leucas aspera, Mullugo* sp., *Physalis minima,* etc., common weeds growing in coconut gardens.

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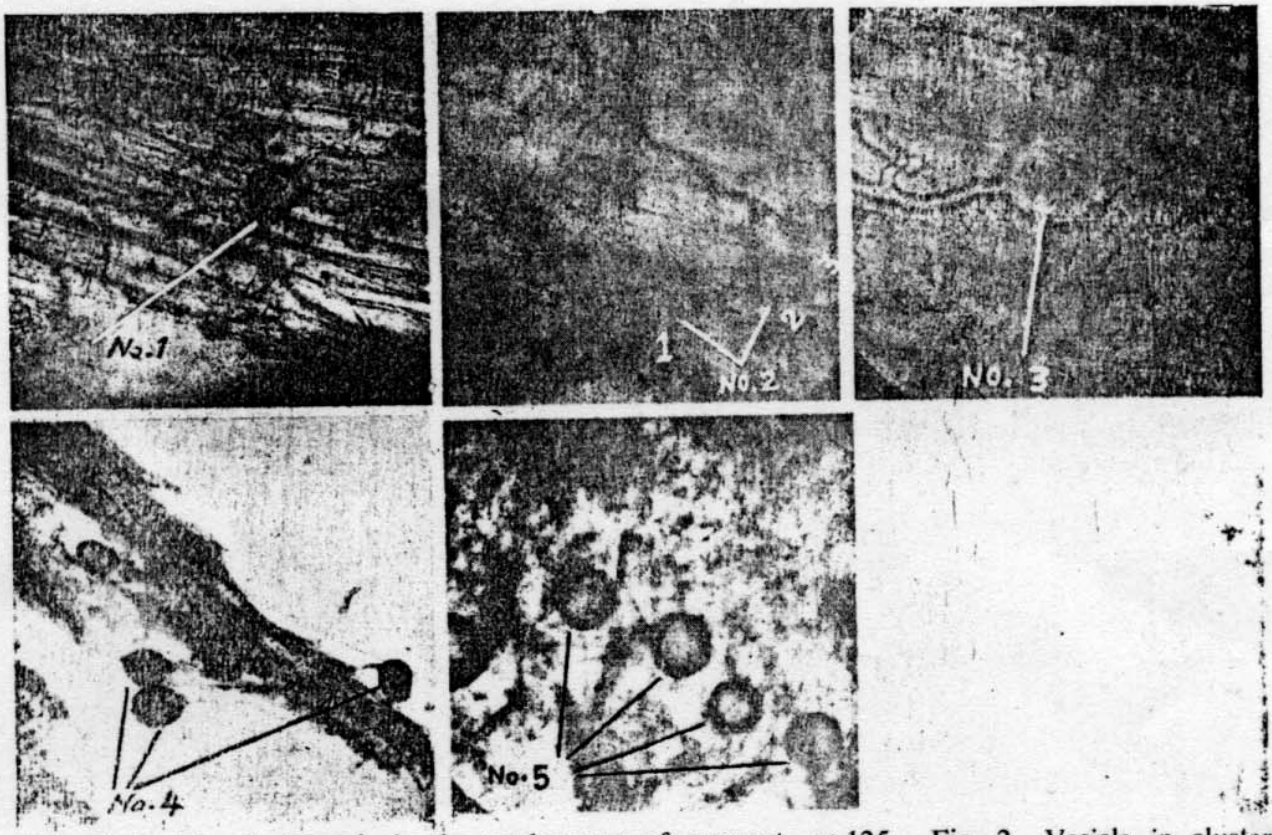

FIGS. 1–5. Fig. 1. Vesicle in the tender root of coconut, × 125. Fig. 2. Vesicle in clusters in the tender root of coconut, × 125. Fig. 3. Single vesicle with aseptate mycelium, × 400. Fig. 4. Vesicles in mature root of coconut, × 125. Fig. 5. Thick-walled spores in mature root of coconut, × 125.

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