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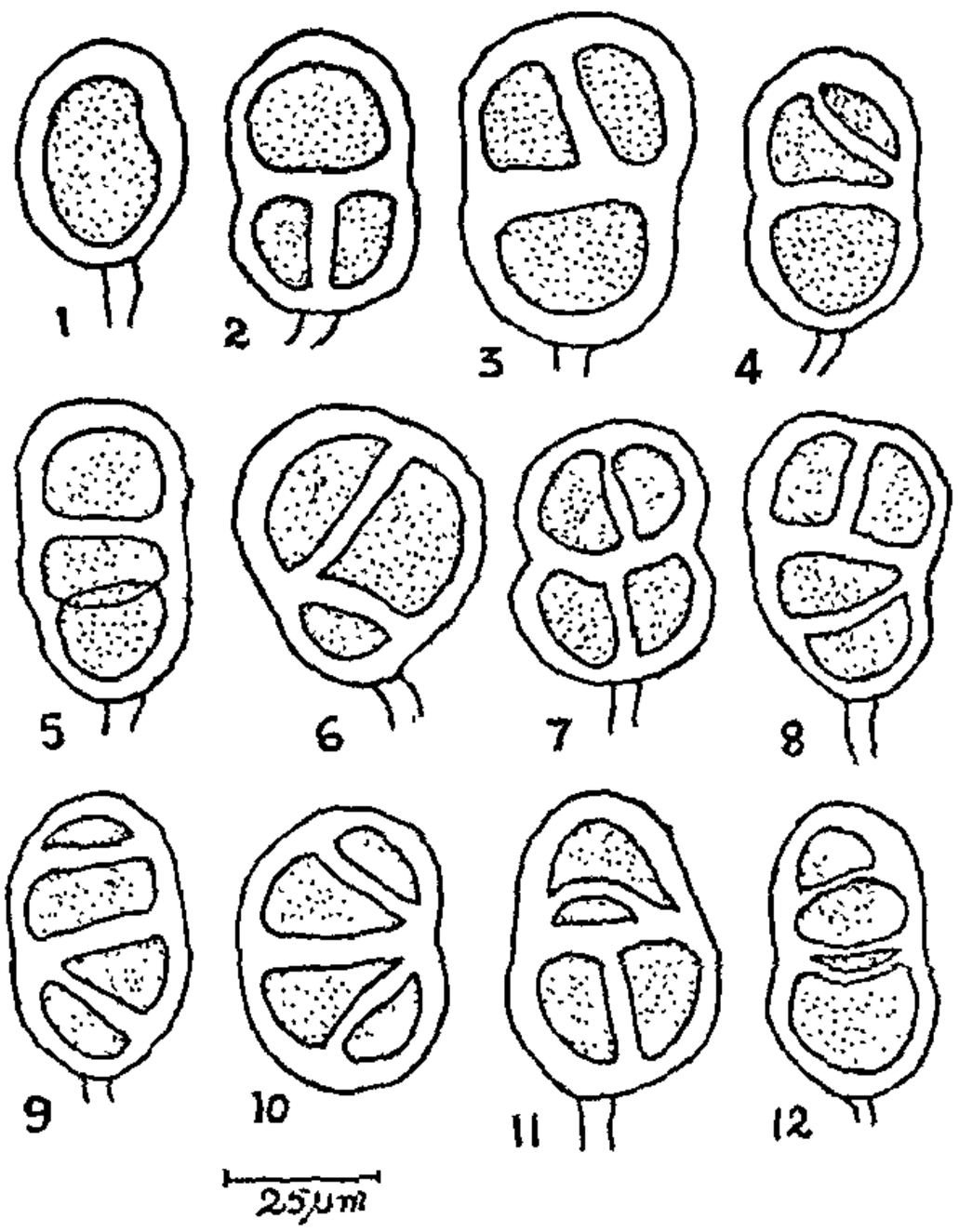
SEPTAL VARIATION IN THE TELIOSPORES OF *RAMAKRISHNANIA* (UREDINALES)

THE genus, *Ramakrishnania*, was described by Ramachar and Bhagyanarayana[1] with R. *ixorae* as the type species. The distinct feature of this rust fungus is the production of teliospores bilaterally on the indeterminately growing basal cell. The teliospores are two celled by horizontal septum and puccinioid (*sensu stricto*) with simple, long persistent pedicels. Subsequently the authors have observed in addition to the normal teliospores, abnormal teliospores and the same are reported in this paper. Ramachar and Bhagyanarayana[2] reviewed the literature regarding such abnormal spores while reporting the variations in teliospores of *Puccinia abutili* Berk. & Br.

Teliospores of *Ramakrishnania* in addition to normal two celled by horizontal septum, exhibit 3-celled and 4-celled, conditions. Such spores are of occasional occurrence. Similarly one-celled mesospores are also present (Fig. 1). In the case of 3-celled spores the lower cell shows the presence of vertical septum (Fig. 2), the upper cell shows a near oblique septum (Figs. 3 and 4) or an additional septum is laid down in the horizontal plane (Fig. 5). The 3-celled teliospores exhibited another variation in the septal formation with the resul! the 3 cells appear as irregularly formed and thereby giving the spore a tri-radiate appearance (Fig. 6). The amount of variation in the position of septa was maximum in case of 4-celled teliospores. The 4-celled spores showed the presence of vertical septa in each cell of the 2-celled teliospore (Fig. 7). In some spores the vertical septum is present in the upper cell while the lower cell showed an oblique septum (Fig. 8). In a few others the lower cell has the oblique septum and the upper cell shows a horizontal septum (Fig. 9) while in some both teh cells are divided by oblique septa (Fig. 10). In addition, the four cells are formed in a peculiar fashion in that the lower cell has a vertical septum and a lenticular cell is formed in between the upper and lowsr cell (Fig. 11). Still in some others the upper cell ie divided into two by a somewhat horizontal septum and below the horizontal septum of the normal 2-celled teliospore is an additional small cell present (Fig. 12). These types of septal variations as seen in the teliospores of *Ramakrishnania* have not been reported so far in any rust fungi. The factors responsible for this type of abnormal spore production whether genetical or environmental, the significance of such spores in the taxonomy or evolution of the rust fungi cannot be said with certainty.



FIGS. 1–12. Camera lucida drawings of the teliospores showing septal variations. Fig. 1, One. celled mesospore. Figs. 2–6. 3-celled teliospores. Figs. 7–12. 4-celled teliospores.

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