



FIG. 1. *Naemacyclus minor* Butin, microphotographs. A. L.S. ascocarp showing hymenium and stromatized tissue, $\times 280$. B. L.S. of mature ascocarp passing through the centre showing flaps $\times 280$. C. Ascospores, $\times 1,120$. D. Ascus showing fascicle nature of the spores, paraphyses and young asci showing crozier development, $\times 560$.

needles. However, it is recognized by its stone-coloured ascocarps, needle surface turning brown, opening by two flaps, absence of the blackened clypeus and filiform 1-2 septate ascospores which are rounded at the ends and are strongly curved in the middle.

We wish to thank Dr. David W. Minter, CMI, England, for confirming the identification. Thanks are due to Prof. K. S. Thind (PAN) for encouragement and to Prof. H. S. Sohi, Chairman, Botany Department, Panjab University, Chandigarh, for providing the laboratory facilities. We are especially thankful to Dr. A. K. Sarbhoy, Curator, HCIO, New Delhi, for allowing us to examine collections for comparison and useful discussions.

December 1, 1980.

1. Bilgrami, K. S., Jamaluddin and Rizwi, M. A., *The Fungi of India*, Today and Tomorrow's Publishers, New Delhi, 1979.
2. Tilak, S. T., Jadav, V. K. and Kale, V. S., *Sydowia*, 1970, 24, 97.
3. Butin, *European J. Forest Pathology*, 1973, 3, 160.
4. Dennis, R. W. G., "British ascomycetes," *J. Cramer, Lehre*, 1978, pp. 585.

5. Ainsworth, G. C., *Dictionary of the Fungi*, CMI Publication, Kew, Surrey, England, 1971.
6. Korf, R. P., *The Fungi*, Academic Press, New York and London, 1973, 4A, 249.

TWENTY-FOUR NEW HOSTS OF THE COWPEA CROSS-INOCULATION GROUP

VIJAYALAXMI SHINDE

Department of Microbiology,
Maharashtra Association for the Cultivation of Science
Research Institute, Pune 411 004, India

THE cowpea 'cross-inoculation group' is the most cosmopolitan group since it includes hosts ranging from cultivated annual pulse legumes to wild perennial creepers, shrubs and trees adapted to different climatic conditions.

In the present studies, rhizobial organisms were isolated from ten new wild nodulated legumes reported by Bhelke¹ and from fourteen more wild legumes previously known to be nodulated. After proving Koch's postulates, these 24 rhizobial organisms were separately inoculated to the seeds of chavli (*Vigna unguiculata*) and sown in sand in pot culture. The plants were fed with Bryan's modified Crone's nitrogen-free solution for a period of 45 days, i.e., till flowering stage. Afterwards, the roots of the plants were washed free of sand with water and it was observed that in all cases, tap roots were nodulated.

The 24 rhizobial organisms failed to nodulate authentic hosts of "Clover, Alfalfa, Bean, Pea and Soybean cross-inoculation groups. Moreover, rhizobial organisms of the above-mentioned groups, viz., *Rhizobium trifolii*, *R. meliloti*, *R. phaseoli*, *R. leguminosarum* and *R. japonicum* failed to nodulate the 24 wild legumes.

It is thus conclusively proved that the twenty-four wild nodulated legumes, viz., *Alysicarpus monilifer*, *A. belgaumensis*, *A. tetragonolobus*, *Clitoria biflora*, *Crotalaria filipes*, *C. nana*, *Cassia pumila*, *Dalbergia sympathetica*, *Desmodium laxiflorum*, *Geissaspis cristata*, *Goniogyna hirta*, *Indigofera glandulosa*, *I. stipularis*, *Psoralea corylifolia*, *Smithia blanda*, *S. capitata*, *S. conferta*, *S. hirsuta*, *S. purpurea*, *S. pycnantha*, *S. sensitiva*, *S. setulosa*, *Vigna khandelensis* and *V. radiata* var. *sub-lobata* belong to the cowpea cross-inoculation group.

Thanks are due to the Director, M.A.C.S. Research Institute, for the facilities and also to the C.S.I.R. for Junior Research Fellowship. Thanks are also due to Dr. Y. S. Kulkarni, Hon. Professor of Microbiology, M.A.C.S., for guidance.

November 21, 1980.

1. Bhelke, V., *Curr. Sci.*, 1972, p. 467.