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Parmulina Theiss. and H. Syd. – A New Generic record from India

Tanaji R. Kavale

Department of Botany, Ajara Mahavidyalaya, Ajara, Dist.- Kolhapur, Maharashtra (416505), INDIA.

ABSTRACT

An interesting Loculoascomycetes fungal genus *Parmulina* Theiss. and H. Syd., and its species *Parmulina japonica* Hino and Katumoto belonging to the family Parmulariaceae of the order Dothideales (v.Arxx and Muller, 1975) is illustrated and described. The genus is known by its 9 species (<http://www.indexfungorum.org/Names/Names.asp>, 31 October 2021). At present there is no report of this genus in India. Therefore, it is a new generic record to the Fungi of India and described species on unknown member of the family Euphorbiaceae also become new record to the Fungi of India.

Key words: Loculoascomycetes, Dothideales, Parmulariaceae, *Parmulina*, New to India

INTRODUCTION

In continuation of taxonomical studies on fungi, the author came across an interesting collection on the leaves of unknown member of the family Euphorbiaceae belonging to Loculoascomycetes fungal genus *Parmulina* Theiss. and H. Syd., and its species *Parmulina japonica* Hino and Katumoto. The genus *Parmulina* was established by Theissen and Sydow, H. in 1914 with the type species *P. exculpta* (Berk.) Thiess. and Sydow and known by its 9 species (<http://www.indexfungorum.org/Names/Names.asp>, Oct., 2021). The genus is characterized by external hyphae absent; stroma or ascomata superficial, scutate or disc-like, orbicular, blackish, attached to the leaves of the host plants with the central portion to the surface and connected with intracellular hypostromata; locules linearly arranged and dehiscent at the apex; asci clavate with short stipes, bitunicate and 8-spored; ascospores 1-septate, hyaline to brown. The species of the genus strictly confined to the members of the family Euphorbiaceae. At present there is no report of this genus in India. Therefore, the genus *Parmulina* Theiss. and H. Syd. and described species *Parmulina japonica* Hino and Katumoto become new records to the Fungi of India.

Herbarium specimens were deposited in the Herbarium Cryptogamae Indiae Orientalis (HCIO) New Delhi and Fungi of Western India (WIF) Shivaji University, Kolhapur (M.S.).

RESULT AND DISCUSSION:

Parmulina japonica Hino and Katumoto, *Journ. Jap. Bot.*, 36 : 378, 1961; Text Plate No.I- figs. 1-5,

Stroma folicoli, amphigenous, sparse or subgregarious, solitary, sometime confluent, flattened disc-like and orbicular in shape, radial in structure, 2-3 mm in diameter, attaches to the leaves only at the central portion, hypostroma subcuticular; locules 22-30 in number, radially arranged at upper surface of the stroma, linear to oblong, dichotomously branched at the apex, longitudinally dehiscent; asci cylindrical to cylindric-clavate, rounded at the apex, with short stipe, containing eight ascospores in two rows and 60-90 x 14-18 µm; ascospores oblong fusiform, 1-septate at the middle portion, not or slightly constricted at the septum, hyaline at first, then brownish, smooth, 18.5-23 x 7-10 µm.

Habit: On the leaves of unknown member of the family Euphorbiaceae, Watangi (Tal.-Ajara. Dist.-Kolhapur, M.S.), 2-10-2001, T. R. Kavale, H.C.I.O. – 45589 and W.I.F. 2003.

CONCLUSION:

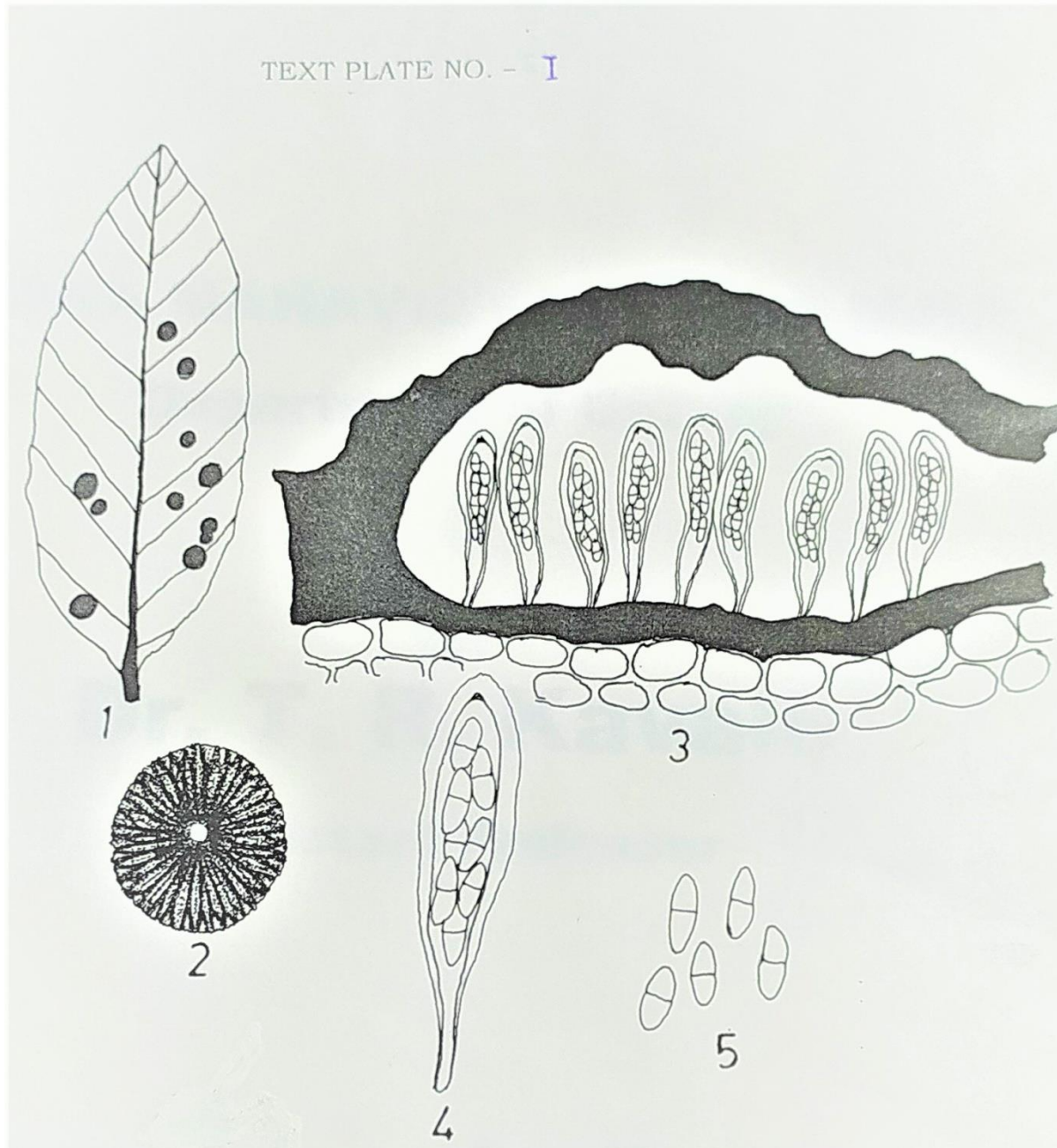
Since from 1914 to 1961, nine species of *Parmulina* have been reported on different hosts from Costa Rico, Brazil, France, Germany and Japan. Sydow, H. (1927) has been reported one species viz. *P. callista* Syd. on the living leaves of *Ocotea insularis* from Costa Rica. Recently Guatimosim, E. et al. (2015) have been reported one more species viz. *P. styracis* Lev. on the living leaves of *Styrax ferrugineus* from Brazil. Ken Katsumoto (1961) has described *Parmulina japonica* Hino and Katumoto collected on the leaves of *Daphniphyllum teijsmanni* Zoll. from Sikoku (Japan). The present collection collected on the leaves of unknown Euphorbiaceous member matched well in all morphological respect to *Parmulina japonica* Hino and Katumoto, except larger diameter of stroma i.e. up to 3 mm and locules are dichotomously branched at the margin hence, referred to it. It makes new record to the Fungi of India.

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Figs. 1-5 *Parmulina japonica* Hino and Katumoto, Fig.1- Habit-Infected leaf showing stroma on lower surface x N. S.; Fig. 2- Black rounded flat Stroma; Fig.3- T. S. of leaf passing through stoma showing asci; Figs 4- Mature ascus with ascospores; Fig. 5- Ascospores.