

Poronia pileiformis (Berk.) Fr.-A new report to Karnataka

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ABSTRACT

A study was conducted in the forest regions of Chikmagalur district of Karnataka, India, to explore the diversity of macrofungi in Balehonnur forest regions. The rich canopy of forest favours the luxuriant growth of macro fungi. In the present investigation an interesting coprophilous ascomycetes belonging to *Xylariaceae* was noticed. Sporocarps were collected from elephant dung, analysed and characterized on the basis of morphological and microscopic characters.

Keywords: Ascomycota, diversity, coprophilous, *Xylariaceae*.

INTRODUCTION

The *Xylariaceae* are considered as one of the largest and relatively well known ascomycetous fungi with worldwide distribution (Pelaez *et al.*, 2008; Hande and Hiwarale, 2013; Li *et al.*, 2015). Xylariaceous members are characterised by their typical morphology, variation in their colour, size and shape (Lee *et al.*, 2002,; Kujawa and Karasinski, 2007). Most of the members are saprophytic on wooden logs, litter and other dead twigs of angiospermic plants. Some of them are typically coprophylous and few of them are found associated with insect nests (Ming and Rogers, 2001; Fournier *et al.*, 2011). During frequent field visits for the exploration of macro fungal communities in Maduguni forest regions of Chikmagalur district, Karnataka, some of the samples were collected on elephant dung. In the laboratory these samples were subsequently investigated, characterized and identified as *Poronia piliformis* (Berk.)Fr.

MATERIALS AND METHODS

Frequent field surveys were conducted to semi evergreen forest of Chikmagalur, Maduguni forest locality (13°21'04.9" N . 75°28'32.1" E) during August to October 2017. The semi evergreen forest consists of diverse flora representing species of *Terminalia*, *Tectona*, *Bambusa*, *Wrightia*, *Ficus*, etc. which accounts for the major floral diversity in the area. This forest region is a part of Western Ghats where the annual rainfall ranges between 4000-6000 mm and relative humidity remains around 55% during summer and 99% during monsoon season (Aruna *et al.*, 2013). The field notes on the fungal stroma gathered from the elephant dung with respect to morphology, size and colour of the stroma and nature of substratum were recorded. Photographs were also taken in their natural habitat. Specimens were carefully collected without affecting the stroma and substrate. Collected samples were brought to the laboratory carefully, hand sections were cut to study the anatomical characteristics and the size and shape of perithecia, asci, ascospores and number of ascospores per ascus. Classical taxonomic work of Pande (2008) was consulted for the characterization

and identification of the investigated species.

TAXONOMIC DESCRIPTION

Poronia pileiformis (Berk.) Fr., *Nova Acta R. Soc. Scient. Upsal.*, Ser. 3 1: 129 (1851)

Figs-1-8.

Stromata long solitary, branched (sometimes), 9.8-24.8 cm × 2-9 mm; stalked stalk 8-23.2cm; fertile part consisting of 4-6



Figs.1-8 *Poronia piliformis*: 1) Sporocarp in association with host; 2) Sporocarps; 3) Broad head with ostioles; 4) V.S. of fertile head; 5) Bulged stalk at the base; 6-7) Perithecia; 8) Ascospores.

mm broad head on the top of the stalk; dark brown at the base and whitish to pale yellow at the top with black papillate ostioles, smooth stroma becomes harder on maturity. Stipe dark brown or completely black, 18-23 cm × 2-3 mm in size, bulged at the base deeply rooted into the substrate and difficult to separate. Stroma solid, filled with cream coloured matrix. Perithecia 460-1950 × 330-1065 µm, distributed through-out the fertile part, immersed within the globular head with ostiolar openings; paraphyses 2-5 µm wide, hyaline, tapering towards the tip. Asci 44-90.5 × 4-6 µm long with eight ascospores each; ascospores arranged uniseriately with slightly overlapping ends, measuring 8.5-11 × 4-5.5 µm in size, ellipsoid, brown coloured, thick walled with mucilaginous sheath and straight germ slit.

Collection Examined: *Poronia pileiformis* found on elephant dung. Place of collection: Maduguni forest locality (13°21'04.9" N. 75°28'32.1" E), Chikkamagaluru district, Karnataka state, India. Date of collection: 10/10/2017. Collector: Nandan Patel K.J., Syed Abrar, Sunil Kumar and Krishnappa M. Herbarium samples has been deposited in the departmental herbarium, department of Applied Botany, Kuvempu University, Shankaraghatta (Accession number KUABMK-118).

REMARKS

Many reports are there regarding the occurrence of the genus *Poronia* outside India (Szczepkowski *et al.*, 2016; Rogers, 1979; Gloer and Truckenbrod, 1988). Rawla and Narula (1982) documented *Poronia pileiformis* from Meghalaya, India on unspecified dung. Later on Latha and Manimohan (2012) reported *P. pileiformis* on elephant dung from Kerala state. The presently examined fungus resembles in its morphological and anatomical characteristics with the taxonomic details given by Rawla and Narula (1982) and Latha and Manimohan (2012). This is the first report of *P. pileiformis* from Karnataka. This fungus is fairly distributed on elephant dung in the forests of Karnataka and growing on elephant dung, along with some other coprophilous fungi.

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