

## SOME PYRENOAMYCETOUS FUNGI FROM LAHORE

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Four ascomycetous fungi, viz *Podospora curvicola* (Wint.) Niessl., *P. badia* sp. nov., *P. trichomanes* Lundq. and *Poronia minuta* Petch have been described from Badian, a salt affected area of Lahore.

*Key words:* Pyrenomycetous fungi.

## INTRODUCTION

During the course of survey of pyrenomycetous fungi, the author collected 4 different saline tolerant species from the saline area of Badian, Lahore. One of them, viz. *Podospora trichomanes* Lundq. was found on the culms of kallar grass (*Diplachne fusca* L.) while the other three, *Podospora badia* sp. nov., *P. curvicola* and *Poronia minuta* Petch. were collected from goat dung.

## MATERIALS AND METHODS

Culms of *Diplachne fusca* L. and pellets of goat dung were collected and kept in moist chambers at room temperature. Several fungi developed on these substrates within two weeks. Temporary mounts of these fungi were prepared in lactophenol and examined under the microscope. Camera lucida drawings were prepared and measurements of different morphological characters were made. Identification was made by taking help from the monographs by Ahmad [1], Clement and Shear [2], Lundqvist [3], Mirza and Cain [4], and Saccardo [5].

## RESULTS

A description of the collected fungi is given below.

1. *Podospora badia* sp. nov. Pertitheciis solitariis vel gregariis, immersis vel semiimmersis, late obpyriformibus 667.8 x 489.72  $\mu$ m, peridio pseudoparenchymatico, coriaceo-membranaceo, translucide brunneo. Collo basi lato, Olivaceobrunneo, 415.2 x 44.2  $\mu$ m, ostiolo nigro. Peridium collie cellulis rectangularis, in parte externa papillose conicis, 4.38  $\mu$ m latis. Ascis 32sporis, cylindraco-clavatis, 296.8 x 54.36  $\mu$ m. Ascoporis uni-vel biseriatis, bicellulatis. Cellula superior late ellipsodia, atra, 18.13-32.76 x 13.14-14.6  $\mu$ m, cum poro germinali apicali 2.1  $\mu$ m in diametro. Cellula (vel appendiculus) inferior hyalina, cylindraco, 5.8-7.3 x 2.1  $\mu$ m inflatione distali *Podospora*

*pleiosporae* valde similis, sed fibrilla longitudinalia carens. *Podospora pleiospora* Winter affinis, sed ascoporis minoribus, poro germinali apicali et cellulis papilloseconicis collie discernitur.

*Habitat:* Ad fimum caprae, Lahore, Pakistan: 19.5.78.

*Typus:* In Faisalabad (NIAB 499). Nuclear Institute for Agriculture and Biology Faisalabad Pakistan.

Ascocarps scattered or aggregated, immersed or semi-immersed, broadly obpyriform measuring 667.8 x 489.72  $\mu$ m. Peridium pseudoparenchymatous, coriaceous, membranous, brown, translucent. Neck 415.2-444.2  $\mu$ m long, broad at the base, olive brown below and black around the ostiole. A flap comprised of rectangular cells develops along the whole neck, outermost layer consists of papillate, conical cells 4.38  $\mu$ m broad. Ascis 32 spored, cylindrical to clavate, stipitate, without apical cavity, 296.8 x 54.36 – 148.48  $\mu$ m. Ascospores uni to biseriata, two-celled. Head cells-broadly ellipsoidal and darkly pigmented 18.18 – 32.76 x 13.14 – 14.6  $\mu$ m, apical germ pore 2.1  $\mu$ m in dia, lower cell or appendage hyaline, cylindrical, 5.8-7.3 x 2.1  $\mu$ m, distal swelling similar to *Podospora pleiospora* but longitudinal fibrils absent (Fig. 1).

It comes close to *Podospora pliespora* Lundq. as regards the number of spores per ascus and the ratio of the length and breadth of spores. The distal swelling of the spore is also similar but without longitudinal fibrils. *Podospora badia*, however, differs from *P. pleiospora* Lundq. in having small size of spores with an apical germ pore instead of subapical one, a broad flap of parenchymatous cells around the entire length of neck. These differences are significant enough to justify the creation of a new species.

*Etymology:* Ver. *badia* refers to the name of the area from where it is collected (Badian).

*Holotype:* Found growing on goat dung and collected from Biosaline Research substation, Badian, Lahore 19.5.1978. NIAB No. 499.

*Habitat:* On goat dung, collected from biosaline Research substation Badian (Lahore).



2. *Podospora curvicola* (Wint.) Niessl (1983) *Hedwigia*, 22: 153-156.

Ascocarps scattered, immersed, erumpent, broadly globose to subglobose,  $712.32 \times 489.72 \mu\text{m}$ . Neck curved, darker; short hair agglutinated over its curvature  $22.6 \times 133.56 \mu\text{m}$ . Peridium pseudoparenchymatous, translucent, paraphysis not observed. Asci few, 256 spored. Young ascus  $214.2 \times 170.6 \mu\text{m}$ , where spores were hardly differentiated into two cells apical cavity not marked, ascospores multiseriately arranged, head cell ellipsoidal,  $14.17 \times 9.11 \mu\text{m}$  with an apical germ pore of  $1.3 \mu\text{m}$  dia. basal hyaline appendage  $6.8 \times 2.3 \mu\text{m}$ . (Fig. 2).

*Habitat*: On goat dung collected from Lahore 5.6.1979 NIAB No. 500.

3. *Podospora trichomanes* Lundq. (1972) *Nordic Sordariaceae*: 151-154.

Ascocarp aerial, solitary, narrowly obpyriform, dark brown, nonstromatic, rounded at the base,  $341.32-371.0 \times 207 - 222.6 \mu\text{m}$ . Neck conical, dark brown, straight  $89.04 \times 74.24 \mu\text{m}$ . sometimes as long as  $100 \mu\text{m}$  (Lundq. 1972). Few hairs present at the base of neck. Peridium pseudoparenchymatous, thick, dark brown, consisting of angular cells, papillate cells present at the base of neck. Asci arise from basal parenchymatous placental tissue, clavate to cylindrical, 8-spored  $89.25 \times 17.85 \mu\text{m}$ . apical cavity not marked. Ascospores uni. to biseriate, head cells dark brown, ellipsoidal  $24.28-27.74 \times 13.14-14.6 \mu\text{m}$ . apical germ pore  $2 \mu\text{m}$  in diameter, basal appendage,

hyaline, cylindrical and thinwalled  $5.84 - 8.76 \times 7.3 \mu\text{m}$  (Fig. 3). Presently collected *P. trichomanes* agrees well in its morphological characteristics and most measurements with the original description of the species (except the small perithecial size  $341.32 - 417.0 \times 207.7 - 222.6 \mu\text{m}$ . against  $700 - 910 \times 300 - 430 \mu\text{m}$ . of original species) which might be due to differences in substrates.

*Habitat*: On *Diplachne fusca* (Kallar grass in moist chamber, collected from Biosaline Research substation Lahore, 22.3.1982. NIAB No. 1020.

4. *Poronia minuta* Petch. (1917) *Ann. R. Bot. Gaard. Peradeniya, unvi, P. III.P., 225.*

Stromata stipitate, whitish when young, later turn brown; stipe consists of elongated cells, olive brown  $371.0 \times 593 \mu\text{m}$  long up to the base of the perithecium. Perithecium globose to subglobose  $415.52 \times 371.0 \mu\text{m}$ . Peridium dark brown to black, papillate neck having ostiole at the top. Asci arising along the wall, cylindrical, apex provided with a plug, stained blue with iodine, 8-spored,  $107.1 \times 14.28 - 17.0 \mu\text{m}$ . Ascospores uni or biseriate, ellipsoid to oblong, yellowish brown to dark, inequilateral, with a longitudinal germ slit, smooth,  $14.6 \times 8.76 \mu\text{m}$ . (Fig. 4).

*Habitat*: On goat dung collected from Sheikhpura; Lahore 7.8.79 NIAB no.1021.

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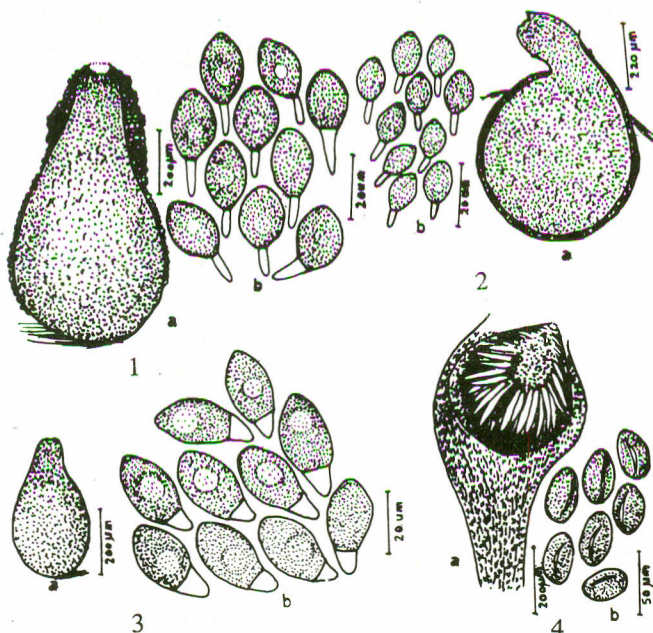


Fig. 1. *Podospora badia*. (a) ascomata (b) ascospores. 2. *Podospora curvicola* (a) ascomata, (b) ascospores. 3. *Podospora trichomanes*. (a) ascomata, (b) ascospores. 4. *Poronia minuta*. (a) ascomata, (b) ascospores.