

## Notes on some Fungi collected in Bombay State (India)

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(Poona, India).

In the present paper an account of some of the fungi collected in Khandala and Poona in the Bombay State, which are either new records for India or new species, is presented. The types of the new species are deposited in the Herb. Crypt. Ind. Orient., New Delhi.

### **Synchytrium khandalense** Payak & Thirumalachar.

Galls on the leaves, amphigenous, compositely monogallic, glistening, lemon-yellow when fresh, becoming brownish with age. Host cells surrounding the gall proliferate and forming a mound of tissue. Only resting spores are known, globose, ovate to spherical, exospore thick, with reticulate and areolate condition, 110—195  $\mu$  in diameter, wall 7.5 to 15  $\mu$  thick. Germination not observed.

Hab. On the leaves of *Blepharis asperrima* Nees, Khandala, 23-9-1951, leg. M. M. Payak (Type), and *Asystasia dalzelliana*, Santapau, Khandala, 23-9-1951, leg. M. M. Payak.

The species under study is different from other species of *Synchytrium* on *Acanthaceae* and other hosts on account of the reticulate and areolate nature of the exospore. Usually in most of the *Synchytrium* species the host matrix gets deposited on the exospore giving various types of sculpturing for the resting spores. The reticulate and areolate nature of the exospore in *S. khandalense* however is due to the nature of the exospore wall itself.

Only resting spore occurs in the life-cycle and examination of several collections have failed to reveal the occurrence of the sporangial stage. While the species may belong to the subgenus *Pycnochytrium*, its confirmation may be done only after germinating the resting sponrangia. The type of gall formed may be classified as compositely monogallic type of Karling (Amer. Journ. Bot. **42**: 540—545, 1955).

Gallae amphigenae, singulae, hemisphaericae, nitentes, citrinae, evadentes in sicco brunneae; cellulae matricis gallam efformentes atque fungillum circumdantes profuse proliferant. Sporae quiescentes globosae, ellipsoideae vel ovoideae, exosporio reticulato, corneo, 110—195  $\mu$  diam., episporio 7.5—15  $\mu$  crasso.

Hab. in foliis viventibus *Blepharidis asperrimae* Nees, Khandala, 23-9-1951 (Typus) et in foliis viventibus *Asystasia dalzellianae* Santapau, leg. M. M. Payak.

2. *Ustilaginoidea arundinellae* P. Henn. in Engler Jahrb. Bot. **37**: p. 157, 1905; Diehl, W. W., Plant Disease Repr. **34**: 57, 1950.

Sclerotia are elongate to elliptic, enclosed at the base by the glumes, 2 to 4 mm. long. Conidia are light greyish-green in colour, spherical and covered with tuberculate processes and measure 5 to 7  $\mu$ , in diameter.

Hab. In the panicles of *Arundinella* sp., Devimane Ghat, Katgall, North Canara, 24-12-1948, leg. U. J o s h i.

Till recently the fungus was known only from Japan and China, but has now been recorded in East Punjab. The collection was made by Walter Koelz from Katla, Kangra district on *Arundinella nepalensis*, and a part of the collection was made available for comparison through the courtesy of Dr. Diehl (U.S.D.A. specimen No. 19629). The present collection closely resembles the East Punjab collection.

### 3. *Uromyces tripogonicola* Payak & Thirumalachar.

Pycnidia and aecia unknown. Uredia hypophyllous, minute, subepidermal, urediospores pale yellow to hyaline, borne singly on pedicels, obovate to ellipsoid, echinulate, with 4 germ pores, 24—34  $\Rightarrow$  19—24  $\mu$ . Telia hypophyllous, subepidermal, black, linear, running parallel to and formed between the veins, coalescent; teliospores one-celled, chestnut-brown, angular at the sides, flattened at the apex which is thickened up 5  $\mu$ . Pedicels smooth, 22—39  $\Rightarrow$  15—24  $\mu$ .

Hab. On living leaves of *Trigopon lisboae* Stapf., Purandhar Hill Fort, Poona, 22-10-1950, leg. M. M. P a y a k.

Pycnia atque aecia ignota. Uredia hypophylla, minuta, subepidermalia; uredosporae pallide luteae vel hyalinae singulae pedicellatae, obovoideae vel ellipsoideae, echinulatae, poris germinationis 4 ornatae, 24—34  $\Rightarrow$  19—24  $\mu$ . Telia hypophylla, subepidermalia, nigra, linearia, parallela, nervis limitata, coalescentia, teliosporae continuae, castaneo-brunneae, angulares ad latera, in apice plus minusve appanatae episporio ibique ad 5  $\mu$  incrassato, pedicellatae, 22—39  $\Rightarrow$  15—24  $\mu$ .

Hab. in foliis viventibus *Trigoponis lisboae* Stapf., Purandhar Hill Fort, Poona, 22-10-1950, leg. M. M. P a y a k.

### 4. *Gloeosporium morindae* Thirumalachar sp. nov.

Infection spots amphigenous, more or less circular to irregular, at first greyish-yellow, later on maturing enlarging with deeper shades of brown and grey alternating. Acervuli epiphyllous, subcuticular, 95—190  $\Rightarrow$  42—91  $\mu$ . Conidiophores hyaline, cylindrical, simple; conidia hyaline, oblong-cylindric, occasionally 2—5 guttulate, acrogenous, with round ends, 8.5—19  $\Rightarrow$  1.3—3.5  $\mu$ .

Hab. on the leaves of *Morinda tinctoria* Roxb., Poona, 18-8-1951, leg. M. M. P a y a k (Type).

Maculae amphigenae, plus minusve circulares, tandem irregulares, primo luteo-griseae, postea obscure brunneae et griseae; nervis haud delimitatae. Acervuli epiphylli, subcuticulares, 95—190  $\Rightarrow$  42—91  $\mu$ , conidiophora hyalina, cylindracea, simplicia. Conidia hyalina, oblongo-cylindrica, interdum 2—5-guttata, acrogena, utrinque rotundata, 8.5—19  $\Rightarrow$  1.5—3.5  $\mu$ .

Hab. In foliis *Morindae tinctoriae* Roxb., Poona 18-10-1951.

5. **Exosporium fici** Payak & Thirumalachar sp. nov.

Infection spots amphigenous, yellowish above and dark grey below, suborbicular when separate, irregular in outline when coalescent, 5—25 mm. in size. Sporodochia hypophyllous, superficial, densely gregarious, convex or applanate, brownish-black, subcuticular, separate or coalescent, 57—95  $\Rightarrow$  30—57  $\mu$ . Conidiophores dark, simple, densely compacted, 17—32  $\Rightarrow$  5—7  $\mu$ . Conidia arrogenous, subhyaline, obclavate to cylindric, straight or slightly curved, not constricted, 3—5-septate, 23—92  $\Rightarrow$  3.5—7  $\mu$ .

Hab. On leaves of *Ficus benghalensis* L., Poona, 13-7-1951.

Maculae, amphigenae, in epiphyllis luteolae, in hypophyllo fusco-griseae, ambitu suborbiculares, confluyendo plus minusve irregulares, 5—25 mm. diam. Sporodochia hypophylla, dense gregaria, convexa vel applanata, brunneo-nigra, subcuticularia, mox erumpentia et superficialia solitaria vel confluentia, 57—95  $\Rightarrow$  30—57  $\mu$ . Conidiophora fusca, simplicia, dense congesta, 17—32  $\Rightarrow$  5—7  $\mu$ . Conidia acrogena, subhyalina, clavato-cylindrica, recta vel curvata, haud constricta, 3—5-septata, 32—92  $\Rightarrow$  3.5—7  $\mu$ .

Hab. in foliis *Ficus benghalensis* Linn., Poona, 13-7-1951, leg. M. M. P a y a k.

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Artikel/Article: [Notes on some Fungi collected in Bombay State \(India\). 38-40](#)