Fungi of Delhi

I. A NEW SPECIES OF THE GENUS SEPEDONIUM LINK

by

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(with 14 figs.)

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Introduction

During a recent taxonomic study on the microfungi of Delhi many saprophytic as well as parasitic forms were isolated. In this paper I am reporting a new species of Sepedonium which differs markedly from the other species. The paper also includes a description of 16 other species of the genus.

About fifty species of Sepedonium have been reported periodically (Dr. Agnes H. S. Onions, Commonwealth Mycol. Inst., personal communication) but many of these have been reduced to synonymy or are possibly synonyms. Saccardo (1886) listed 16 species and the New Taxa Index of Crops Res. Div., USDA, Beltsville, Maryland, USA, listed 21 (personal communication from Dr. C. R. Benjamin).

The form genus Sepedonium Link is based on its large, distinct aleuriospores (Vuillemin 1911, Mason 1933). Recently Carmichael (1962) has given the details of the delimitation of the genus and according to him "the fact that some species also produce phialospores or conidia or some other type of imperfect spores has no bearing on their inclusion in, or exclusion from the genus Sepedonium".

1) Saccardo (1886) has referred to aleuriospores as conidia in his Sylloge Fungorum as this word (aleuriospore) was coined much later. Vuillemin (1911) called certain terminal chlamydospores of conidial nature "aleuriospore". They are freed by the destruction of the hyphae which bear them. Grigoraki defines aleuries as uninucleate spores often of variable volume, formed endogenously or exogenously as a result of the total or partial dissociation of the protoplasm of a filament or a sporophore (see Snell & Dick, 1957). Most of the workers now accept Vuillemin's concept of aleuriospore. However, it may be added that such spores may also be freed from the hyphal tips after maturity due to growth pressure of the other spores. Subramanian (1962, 1965) has, however, proposed the term "gangliospore" for aleuriospore as he thinks that the latter is confusing and can be interpreted in various ways (see Goos, 1956). Subramanian defines the gangliospore as the swollen tip of a hypha transformed into a spore.
In the present species no other type of imperfect spore was observed, even when it was grown on different media and variable conditions. Its colony characters show marked differences from the existing species. It forms enough aerial mycelium and shows distinct growth rings. It does not have the marked golden or rose colony colour as is observed in most of the known species. In the present species the aleuriospores are globose and tuberculate.

From India only one species of *Sepedonium* Link i.e. *S. chryso-spermum* (Bull.) Fr. (=*S. mycophilum* (Pers.) Nees) has been reported as a keratinophilic fungus of Delhi soils (Gugnani 1964). I examined this isolate after growing it on various media and found that it produces cleistothecia on oat meal agar. It appeared to be a typical isolate of *Thielavia sepedonium* Emmons, which is a common Indian soil inhabitant (Rai et al. 1961).

**Description**

*Sepedonium maheshwarianum* spec. nov.

Coloniis in agaro Czapek-Dox cum fermento 0.5 % luxuriantibus, 6.5—7.0 cm in diam. septem dies ad 27 ° C±1 ° C. Primum albis, mutansatis flavis ad maturitatem, aleuriosporis formantibus; post quinque dies incubationis circulos incrementi distinctos exhibetur. Parte coloniarum aversa alba vel flava. Hyphis paucis vel copiosis, 3—6μ in diam. septatis, inaequaliter ramificatis. Aleuriosporis densis ad superficiem medii nutrientis tamen paucies ad hyphas aeries. Sporulatione crassa in circulis, ad marginem quoque coloniarum. Aleuriosporis hyalinis, flavis in magna copia; globosis raro subglobosis, tuberculatis, muro crassis, 15—25 μ in diam. latis ad hyphas extremas vel ad ramos breves laterales (annelaphoris). Aliquam semel ac saepeis aleuriosporis formantibus ad unum locum; raro sporis latis ad hyphas laterales. Formatio conidialis non videtur. Fungo primum separato ab aere Delhi, mense decembris 1964. Cultura viva deposita ad Commonwealth Mycological Institute, Kew, Surrey, England, sub numero IMI 113611.

The fungus showed excellent growth on Czapeck's-Dox agar with 0.5 % yeast at 27 ° C±1 ° C; the colony attaining a diameter of about 6.5 to 7.0 cm in seven days. When the water content of basal medium is increased, the colonies show a marked reduction in linear growth and become raised in the centre (Fig. 2). They are at first white and turn a light yellowish-straw tinge when mature 8) (Maerz & Paul 9A1, 10A3 and Horticultural Color Chart 6/3) due to the formation of numerous aleuriospores. Reverse of the colony is white to light straw yellow colour (Maerz & Paul, 10A3); the submerged hyphae are white and do not grow very deep into the

8) Colours mentioned in this paper are after the Horticultural Colour Chart of the British Colour Council (1938) and Maerz and Paul's (1950) "A Dictionary of Color."