



Anamorphic fungi new to Shiwaliks- Northwest India

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(Received on: 27 June, 2014; accepted on: 23 July, 2014)

ABSTRACT

Four species viz *Sporidesmium brachypus*, *Sporidesmium vagum*, *Sporidesmium tropicale* and *Zygosporium oscheoides* are reported new to Shiwaliks.

Key Words: Hyphomycetes, North-West Shiwaliks, Himachal Pradesh, India.

INTRODUCTION

The present paper includes new data on corticolous hyphomycetes of Shiwaliks. Trees bark with fungal fructifications were collected and examined to identify the fungi. Out of the identified species, *Sporidesmium brachypus* (Ellis & Everh.) S. Hughes, *Sporidesmium vagum* Nees & T. Nees, *Sporidesmium tropicale* M.B. Ellis, and *Zygosporium oscheoides* Mont. are reported new to Shiwaliks. Short descriptions and illustrations for these species are provided.

MATERIAL AND METHODS

The materials studied in this work were collected from Parwanoo and adjoining areas (Shiwaliks). The specimens were brought to the Mycology and Plant Pathology Laboratory, Botany Department, Panjab University, Chandigarh. All measurements are based on 50 readings of the structures mounted in Amann's Lactophenol (Phenol- 20 g, Lactic acid- 20 g, Glycerol- 40 g, distilled water 20 ml). The specimens were studied microscopically under Matrix stereo trinocular microscope (VL-Z60) and transmission microscope (VRS-2f) for macroscopic and microscopic characters. All the measurements were taken with the help of Pro MED software. The fungi were identified according to Ellis (1971, 1976) and Subramanian (1971). The specimens are deposited in the Herbarium of Botany Department, Panjab University, Chandigarh, India (PAN).

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RESULTS AND DISCUSSION

Sporidesmium brachypus (Ellis & Everh.) S. Hughes, Canadian Journal of Botany 36 (6): 807 (1958) **Fig. 1 d-f, Fig. 3a**

Colonies dark blackish brown to black. Mycelium partly superficial, partly immersed. Conidiophores mid to dark brown, often conico-truncate at the apex. Conidia straight, fusiform, rostrate, conico-truncate at the base, golden brown in colour, smooth, 5-8 pseudoseptate, 50-90 µm long, 10-14 µm thick at the broadest part, 1-2 µm near the apex, 3.5-5 µm wide at the base.

Collection examined: Gargi 30725 (PAN), on bark of *Pyrus japonica*, Parwanoo, Himachal Pradesh, April 4, 2014.

Notes: This species has been previously recorded from Kerela, on dead branches of *Moringa aoleifera* and from Rajasthan on dead wood (Bilgrami *et al.* 1991 & Jamaluddin *et al.* 2004). This species is reported for the first time from Shiwaliks.

Sporidesmium vagum Nees & T. Nees, Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur.: f. 2 (1818) **Fig. 1 a-c, Fig. 3b**

Colonies black. Mycelium immersed. Conidiophores pale to mid brown, 18-26 × 3-6 µm. conidia flexuous, obclavate, greatly elongated, often constricted at the pseudosepta, rounded at the apex, smooth, 18-32 pseudoseptate, 140-250 µm long, 10-14 µm thick in the broadest part, 4-7.5 at the apex, 3-4.5 wide at the base.

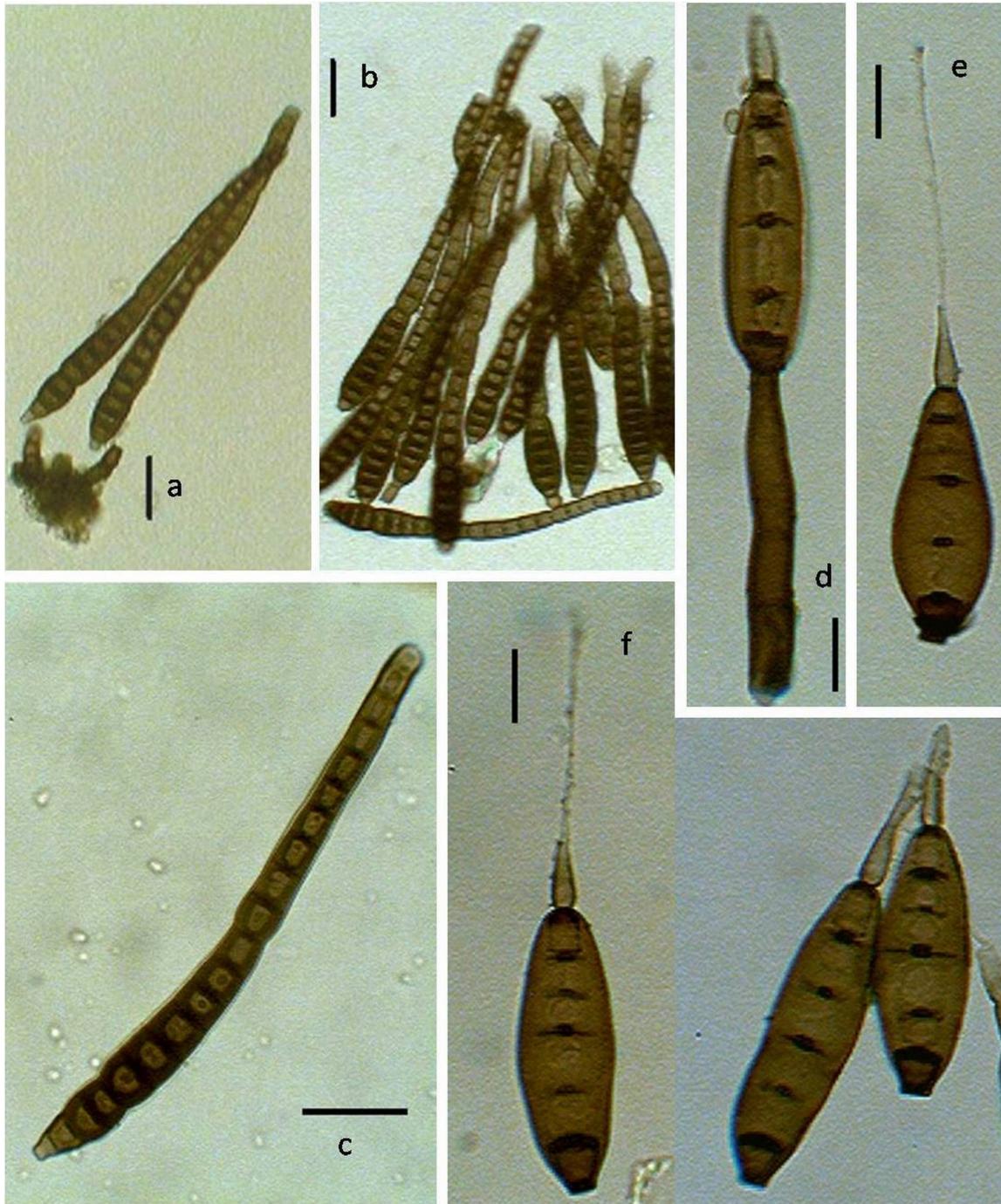


Fig. 1 a-c. *Sporidesmium vagum* a. Conidiophores and conidia b, c. Conidia **d-f.** *Sporidesmium brachypus* d. Conidium attached to conidiophore e, f. Conidia. Bars a-c = 20 μ m, d-f = 10 μ m.

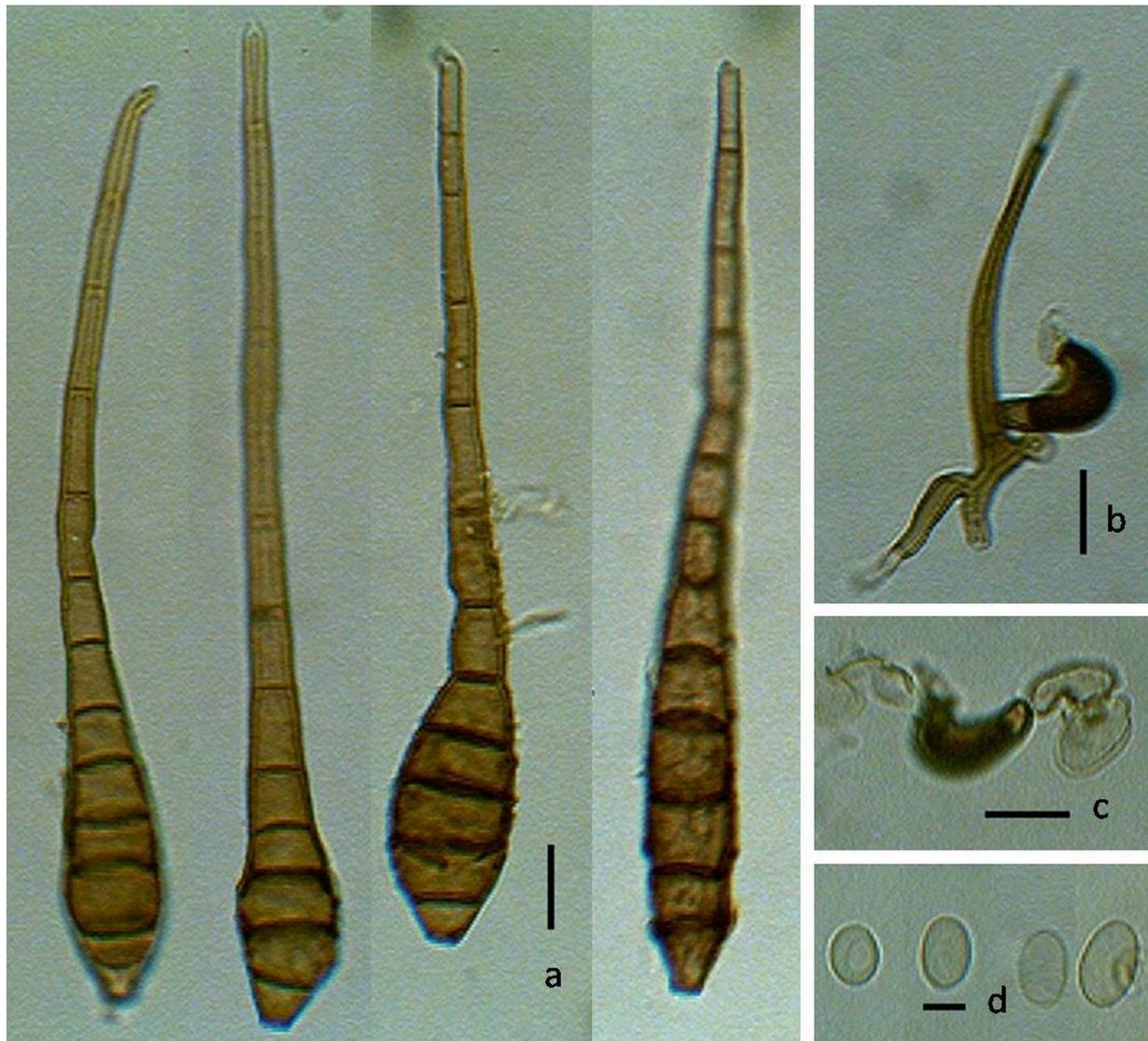


Fig. 2 a. *Sporidesmium tropicale* a. Conidia b-d. *Zygosporium oscheoides* b. Conidiophores and vesicle c. Conidium attached to vesicle d. Conidia. Bars a-c = 10 μ m, d= 5 μ m.

Collection examined: Gargi 30752 (PAN), on bark of *Pyrus japonica*, Parwanoo, Himachal Pradesh, April 4, 2014.

Notes: This species is probably the most commonly occurring species of *Sporidesmium* from the study area. It has been previously reported from Madras, Tamil Nadu on dead stems of *Quisqualis malabarica*, from Jabalpur, Madhya Pradesh on dead wood of unidentified host and from New Delhi (Bilgrami *et al.* 1991 & Jamaluddin *et al.* 2004). It is a new record for Shiwaliks.

Sporidesmium tropicale M.B. Ellis, Mycol. Pap. 70: 58 (1958) **Fig. 2a, Fig. 3c**

Colonies blackish brown. Mycelium partly superficial, partly immersed. Conidiophores brown, up to 300 μ m long, 5-7 μ m. conidia straight or curved, obclavate, rostrate, conico-truncate at the base, brown, 8-14 septate, 77-160 long, 11-14.5 μ m thick at the broadest part, 2-4 μ m near the apex, 3-4.5 μ m near the base.

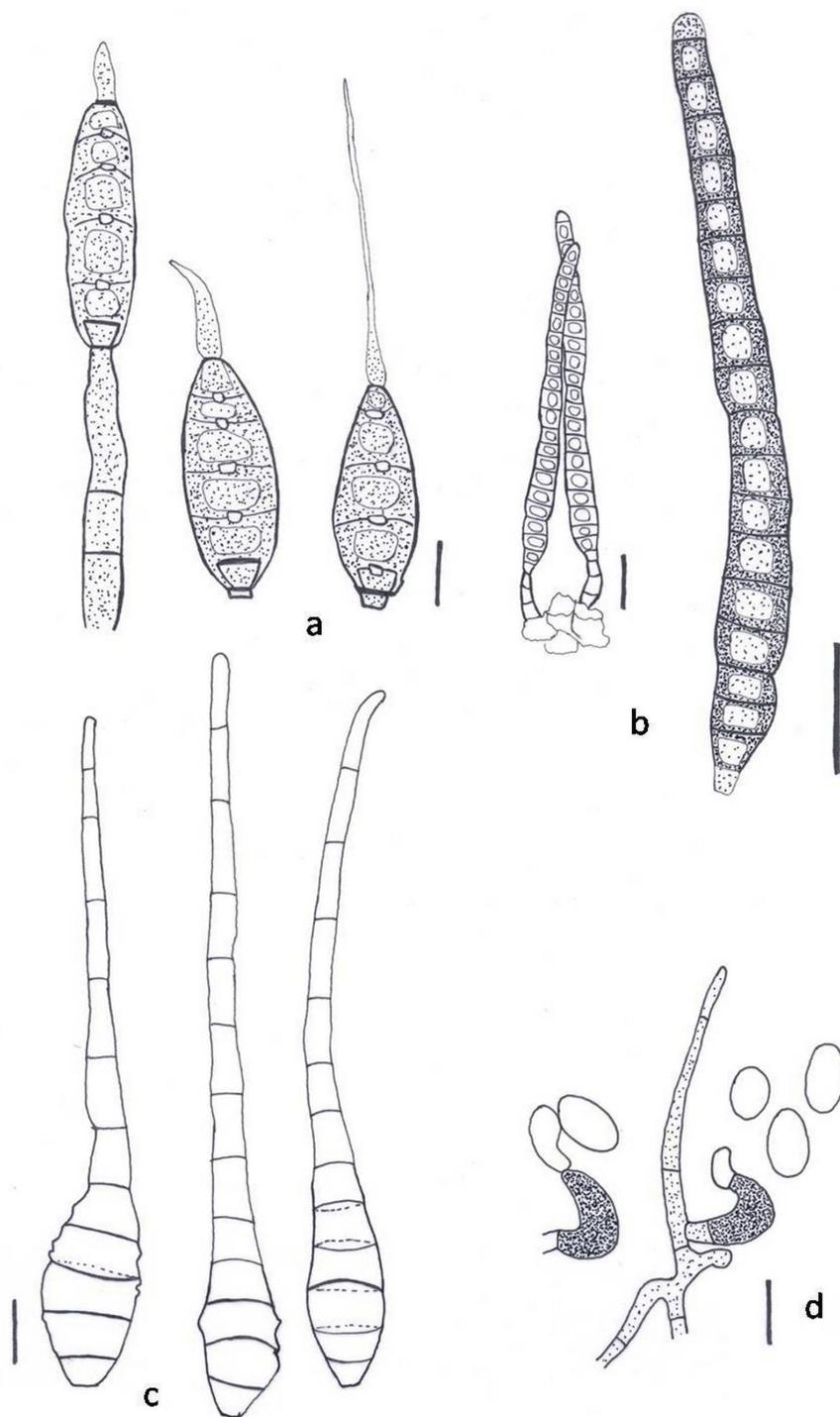


Fig. 3 a. *Sporidesmium brachypus* a. Conidiophore and conidia b. *Sporidesmium vagum* b. Conidiophore and conidia c. *Sporidesmium tropicale* c. Conidia d. *Zygosporium oscheoides* Conidiophores, vesicles and conidia. Bars a, c, d = 10 μ m, b = 20 μ m.

Collection examined: Gargi 30712 (PAN), on bark of *Pinus wallichiana*, on Parwanoo to Solan highway, Himachal Pradesh, April 4, 2014.

Notes: Previously recorded from Assam on twigs of shade trees in tea garden (Bilgrami *et al.* 1991 & Jamaluddin *et al.* 2004), this species constitute a new record for Shiwaliks.

Zygosporium oscheoides Mont., Annls Sci. Nat., Bot., sér. 2 17: 121 (1842) **Fig. 2 b-d, Fig. 3d**

Conidiophores subulate, up to 50 μm long, 3-4 μm thick at the base, bearing a single vesicle laterally on a short stalk just above the base. Vesicles 9-17 μm long, 7-9 μm thick in the broadest part. Conidia ellipsoidal, colourless or very pale brown, smooth, 7-12 \times 4-6.5 μm .

Collection examined: Gargi 30717 (PAN), on bark of unidentified angiospermic wood, on Parwanoo to Solan highway, Himachal Pradesh, April 4, 2014.

Notes: *Zygosporium oscheoides* is the type species and the most common species of the genus. It has been reported on various substrates and from different parts of the country. This is the first report of this species from Shiwaliks.

ACKNOWLEDGEMENTS

One of us 'S. G.' is thankful to UGC for fellowship in BSR scheme and for the infrastructural facilities under SAP (DRS-III) scheme. We are also thankful to the Chairperson, Department of Botany for laboratory facilities.

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