New records of fungi, fungus-like organisms, and slime moulds from Europe and Asia: 28–29

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Abstract. *Curvularia lunata* on *Grewia optiva* is recorded from India. Occurrence of *Xylaria longipes* is reported from Bulgaria.

Key words: ascomycetes, Bulgaria, *Curvularia lunata, Grewia optiva,* India, *Xylaria longipes*

28. Leaf spot disease on *Grewia optiva* caused by *Curvularia lunata* recorded from India

Grewia optiva (Buch.-Ham. ex Roxb.) J.R. Drumm. ex Burret (syn. *G. oppositifolia* Buch.-Ham. ex Roxb.) is a perennial higher angiospermic plant belonging to family *Malvaceae.* The plant is a very important animal fodder most widely used throughout winter season in almost all areas of lower districts of Himachal Pradesh. The plant is popularly known as "Byol". The wood is yellow-white, fine-grained, strong and flexible. Fibre extracted from the bark of *Grewia optiva* is used for making ropes while branches are as fire wood (Sharma & Mishra 2009; Gautam *et al.* 2011).

The infected leaves of *G. optiva* were collected in 2010 from the different localities of district Bilaspur, Himachal Pradesh, and brought to the laboratory for isolation and identification of pathogens associated. Small, circular, pale yellow coloured spots with brown margin were observed on leaves of *Grewia optiva.* The average diameter of the spots was 2.5 mm and reaching 5.0 mm. When the disease advances, it causes tissue necrosis resulting in appearance of holes on brownish spots.

The infected leaves were surface-sterilized using 70 % alcohol, immersed for 2–3 min in 1 % sodium hypochlorite, then washed in distilled water. They were incubated on Potato Dextrose Agar media (PDA) at 25 °C for 4 days under darkness. Morphological and microscopic characters of the fungus were investigated (Gilmen 2001). The culture was slightly greyish, hairy, reverse bluish black in colour. Hyphae were branched and septate. Conidiophores were erect, unbranched and septate. The conidia were smooth walled, olivaceous, curved at subterminal cell, 2–3-septate and brown. The conidia measured 18–29 × 8–10 µm in size. Pathogenicity tests were conducted using a detached leaf technique. On the basis of morphological and microscopic characters, the fungus was identified as *Curvularia lunata* (Fig 1).

The species is a ubiquitous saprophyte on different plant materials. *Curvularia lunata* has been previously reported on *Gladiolus* in Pakistan (Shakir *et al.* 1998), *Zoysiagrass* in United States (Roberts & Tredway 2008), Boro rice seeds in Dinajpur (Rashid 2001) and Dragon fruit in Malaysia (Hawa *et al.* 2009). Further, *C. lunata* was reported as causal agent of rot of Strawberry (Verma & Gupta 2010), leaf spot of *Amaranthus spinosus* (Sharma *et al.* 2011) from India. To our knowledge this is the first report of leaf spot disease on *Grewia optiva* caused by *Curvularia lunata.*

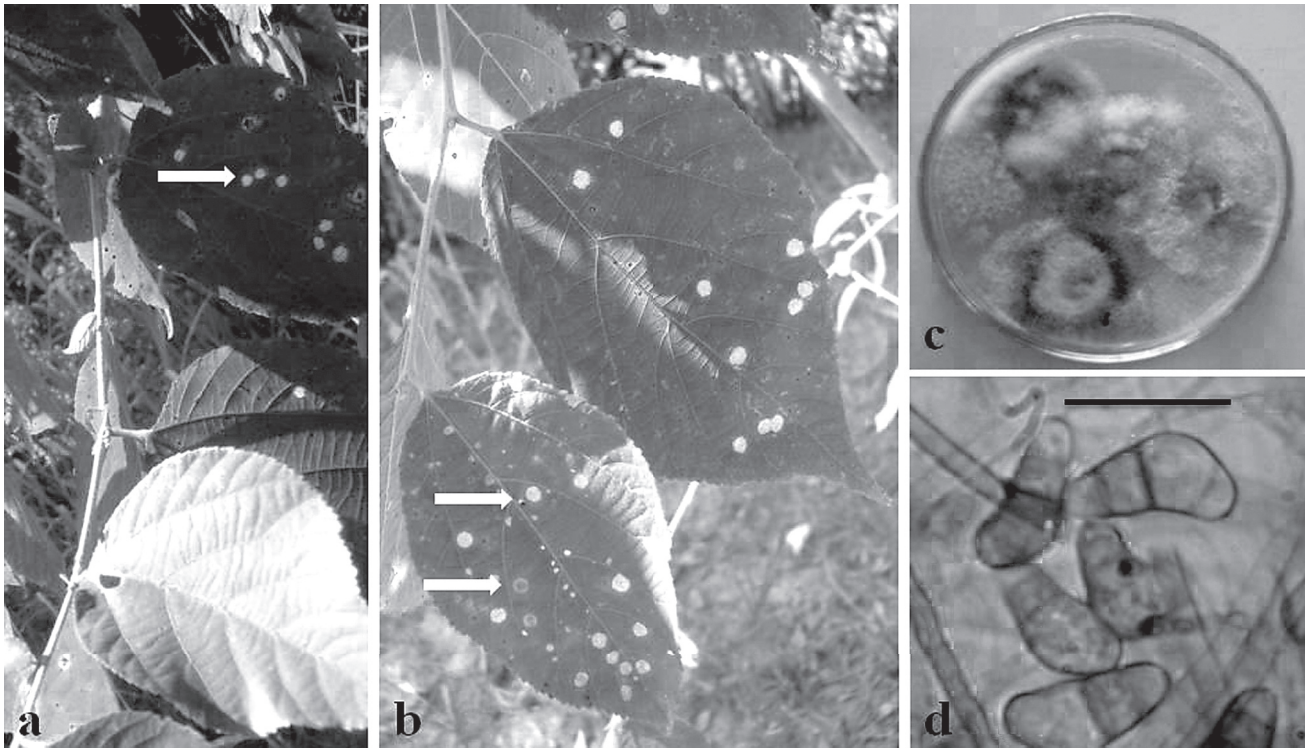

Fig. 1. Symptoms of leaf spot disease of *Grewia optiva* and the causal fungus *Curvularia lunata:* **a** – healthy and infected leaves under natural conditions, **b** – leaf spots caused by pathogen, **c** – colonies of isolate cultured on PDA, **d** – conidia of isolate. Scale bar = 20 µm

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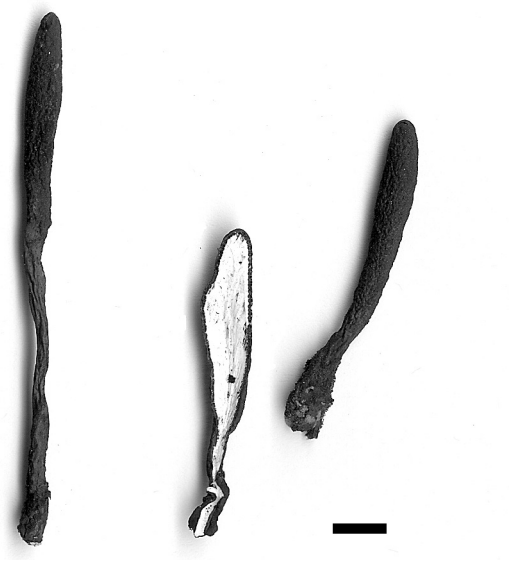

Fig. 2. Ascomata of *Xylaria longipes.* Scale bar = 1 cm

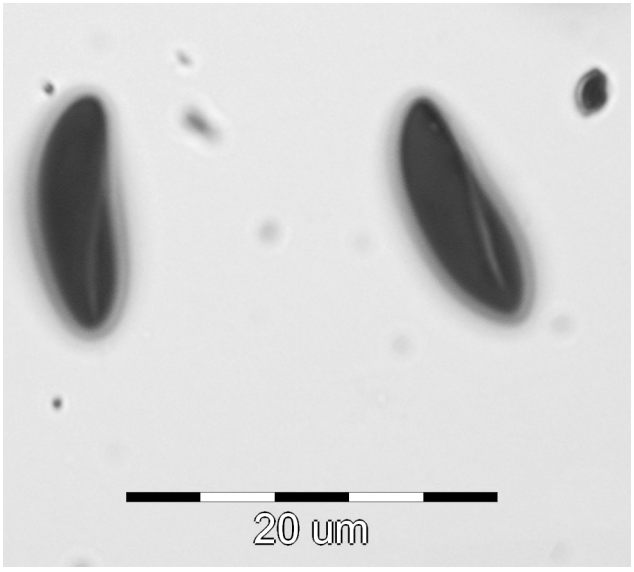

Fig. 3. Ascospores of *X. longipes,* showing germ slit

29. *Xylaria longipes* (*Xylariaceae*) in Bulgaria

Specimens are kept in the Mycological Collection of the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (SOMF). The asci and ascospores of the studied specimens were mounted in water in semipermanent slides and documented with a microphotograph made with using an OLYMPUS digital camera on an OLYMPUS BX-51 phase contrast microscope under immersion oil. The obtained data for the ascospore dimensions were examined by standard statistic methods and are presented in a brief description of the fungus in the form: (min–) mean±1σ (–max), length/width ratio (min–) mean±1σ (–max). The identification is confirmed by the works of Vasilyeva (1998) and Medardi (2003, 2006).

Xylaria longipes Nitschke, Pyrenomycetes Germanici **1**: 14, 1867. **Figs 2–3**

Stromata arising from the substrate surface, ± stipitate, clavate or cylindric, or flattened and spathulate to lingulate, 45–85 × 4–12 mm, with a thin, blackish brown, roughened cortical zone and whitish flesh. **Perithecia** very numerous, immersed immediately under the cortical zone, 450–600 µm in diam, black, globose to slightly papillate. **Asci** 85–120 × 6–9 µm, cylindro-clavate, long stipitate, 8-spored. **Paraphyses** cylindric. **Ascospores** (11–) 12.5±0.7 (–15) × (4.6–) 5.7±0.3 (–6.2) µm, l/w (1.7–) 2.2±0.2 (–2.7), *n* = 200, brown to light brownish, one-celled, irregularly ellisoid, inaequilateral, with one or two guttules, uniseriate in the ascus, with a slightly coiled longitudinal germ slit.

Specimens examined. On dead trunks. **BULGARIA:** Black Sea coast: Varna, Gjunduza locality, 14 Oct 1956, N. Karnadzhiev (sub *X. clavata* Scop., SOMF 2319); Forebalkan: Vratsa distr., Vrachanski Karst reserve, 16 Aug 2006, B. Assyov (SOMF 28 146); Belasitsa Mt, Petrich distr., Konguro reserve, 12 Oct 2007, I. Assyova (SOMF 28 147).

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