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The first record of *Truncatella angustata* from *Chamaecyparis lawsoniana* trees in the northeast of Iran

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Brown rot symptoms were observed on *Chamaecyparis* shrubs planted in the green landscape of Gorgan region, Golestan province (36°30′38°″ N, 53°57′56°″ E), as twig dieback during January 2015. More than 20% of the trees were observed with disease symptoms. Initial symptoms were brown lesions on the leaves. These occurred at the tip or edge of the leaves (Fig. 1a). Leaves with these symptoms were harvested and surface-disinfected for 2 min in 2% NaOCl, then they were cultured on potato dextrose agar (PDA), incubated at 25°C for 10 days in dark conditions. The colony appeared like a cottony shape on PDA after 10 days at 25°C with a dimension of 35 mm (Fig 1b). The dark brown color of mycelia was observed from underneath the Petri plates (Fig. 1c). Conidium was produced in acervuli and formed individually or integrated on the surface of colonies. Conidiophores with holoblastic and anellidic conidiogenous cells arise from acervulus, which were colorless and often cylindrical (Fig. 1d). Conidia were fusiform, four cells (Fig. 1d) with the measurement of 4–7 (5.4) × 15–21 (17.3) µm, basic colorless cells with dimensions 3–6 (4.1) × 3–4(3.2) µm were measured. The size of the terminal cells was observed 4–6 (5.4) × 3–4 (3) µm with one or more appendages often simple or branched (Fig 2e). They were colorless and the length was measured as 10–22 (15.8) µm. Two alternate cells were dark brown and the total size was measured 5–8(7) × 13–16(14.6) µm. Based on morphological characteristics of the fungal isolates, they were identified and compared with description keys of Sutton (Sutton 1980). The isolates were identified as *Truncatella angustata* (Pers.) S. Hughes. The differences of *Truncatella* and *Pestalotiopsis* are the number of conidia transverse septa. *Truncatella* conidia have three transverse septa and endogenous papillae were simple, while in *Pestalotiopsis* conidia has four transverse septa and endogenous papillae was simple or branched (Sergeeva et al. 2005).

After DNA extraction the specific DNA of the fungus was amplified using PCR with Taq DNA polymerase according to manufacturer instructions. The PCR analysis was performed according to the method described previously. The PCR product was sequenced and recognized by the internal transcribed spacer (ITS1–5.8S–ITS4) region of rDNA. The resulting sequence (600bp) was submitted to a BLAST search to find the most similar sequences in the GenBank database. These isolates were identified by morphological characterization and sequence analysis of ITS region. The similarity to sequences of ex–type isolates was recognized and confirmed in NCBI (*Truncatella angustata*, Accession number: MG383932.1). The culture was deposited at the Iranian Fungal Culture Collection (IRAN…C) with accession number (IRAN 3050C) at the Iranian Research Institute of Plant Protection, Tehran, Iran. *Truncatella angustata* which was the host of the vine had been reported previously (Sergeeva et al. 2005). Moreover, this fungus caused the dieback of the vine in the vineyard of west Azerbaijan province by an isolate of *Truncatella* sp. (Moshari et al. 2012). In addition, it was reported as a pathogen of olive fruit in Zanjan province (Torbati et al. 2012). *Truncatella angustata* was also recorded as the cause of leaf spots on *Chamaecyparis lawsoniana*, for the first time in Iran, however, was not explained thoroughly (Ershad 2009).

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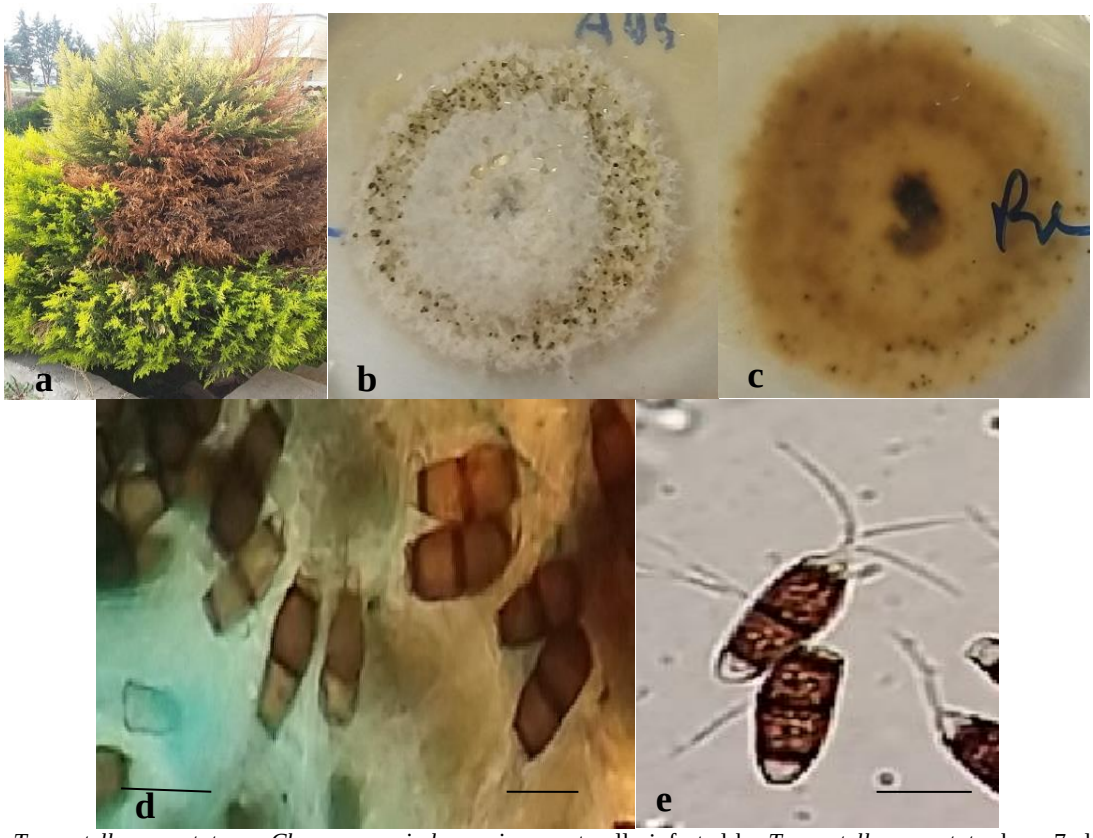

Fig. 2. *Truncatella angustata*. a. *Chamaecyparis lawsoniana*, naturally infected by *Truncatella angustata*; b, c. 7–day–old colony on PDA (a: above, b: reverse); d. Conidia and conidiogenous cells; e. Conidia with apical appendages. — Scale bars = 10 µm.