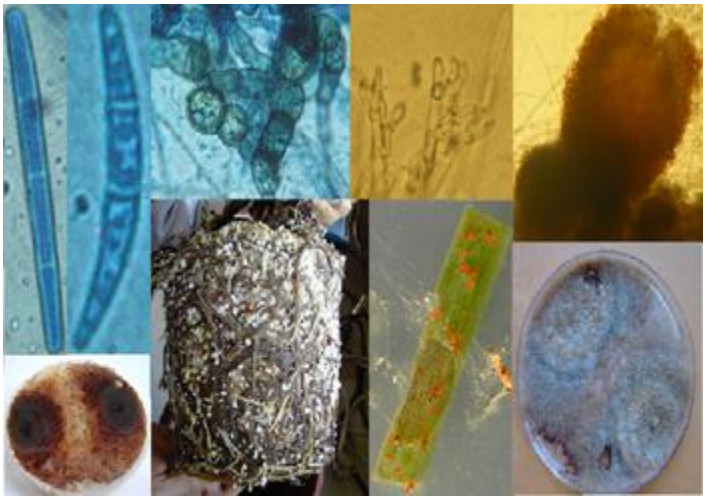
Root and Crown Rot of Anthurium Caused by *Calonectria ilicicola* in Iran

M. Mirabolfathy, Iranian Plant Protection Research Institute, No. 1 Yaman (Tabnak) Ave., Chamran Highway, Tehran, Iran; and J. Z. Groenewald and P. W. Crous, CBS-KNAW, Fungal Biodiversity Centre, Uppsalalaan 8, 3584 CT Utrecht, the Netherlands

In the autumn of 2008, a severe disease of *Anthurium andraeanum* with wilting and root and crown rot symptoms was observed in a greenhouse in the Varamin area of Tehran. A species of *Calonectria* was isolated consistently from symptomatic tissues on 2% potato dextrose agar (PDA). The fungus produced perithecia and a *Cylindrocladium* anamorph when incubated on carnation leaf agar under near-ultraviolet light at 25°C. Perithechia were reddish brown, subglobose to ovoid, and 300 to 400 µm in diameter. Asci were clavate, hyaline, 90 to 140 × 12 to 19 µm, and tapering to a long thin stalk. Ascospores were fusoid, straight to slightly curved, 1-(-3) septate, and (30-) 37 to 50 (-65) × (4-) 5 to 6.5 (-7) µm (mean = 45 × 6 µm; *n* = 30). Penicillate conidiophores gave rise to stipe extensions that terminated in sphaeropedunculate vesicles (6-) 7 to 10 (-12) µm in diameter. Conidia were hyaline, cylindrical, rounded at both ends, straight, (45-) 70 to 82 (-90) × (4-) 5 to 6.5(-7) µm (mean = 62 × 6 µm; *n* = 30), and (1-) 3-septate. On the basis of morphology, the fungus was identified as *Calonectria ilicicola* Boedijin & Reitsma. Koch's postulates were fulfilled by spray inoculating 1-month-old seedlings with a conidial and mycelial suspension (10^5 particles per ml) of the fungus obtained from 14-day-old single-spore colonies grown on PDA at 25°C. Following inoculation, all plants were maintained in plastic bags in a glasshouse at 25 ± 1°C. After 15 to 25 days, symptoms resembling those seen in the diseased glasshouse were detected on inoculated plants. *C. ilicicola* was reisolated from the artificially infected tissues. No symptoms were detected on the control plants. Nucleotide sequences of the internal transcribed spacer (ITS) regions of the nrDNA operon and the partial histone H3 gene were determined for derived strain CPC 16334 as described previously (1,3). The ITS sequence (GenBank Accession No. GU057378) matched 100% (644/644 bp) with the sequence of *C. ilicicola* strain CBS 463.76 (GenBank AF493963) and the histone H3 sequence (GenBank GU057379) matched 99% (456/458 bp; due to two versus three AC repeats in the sequence) with that of *C. ilicicola* strain CBS 112217 (GenBank AY725686). To our knowledge, this is the first report of *Calonectria* and *Cylindrocladium* genera and the disease caused by *C. ilicicola* from Iran.

References: (1) R. Cheewangkoon et al. Persoonia 23:55, 2009. (2) P. W. Crous and M. J. Wingfield. Mycotaxon 51:341, 1994. (3) P. W. Crous et al. Stud. Mycol. 50:415, 2004.



Root and crown rot symptoms on *Anthurium andraeanum* induced by *Calonectria ilicicola* (lower, second from left). The microscopic structures of the fungus: conidium (upper left), ascospore (upper, second from left), microsclerotia (upper, third from left), conidiophore (upper, fourth from left), and perithecia (upper right and lower, third from left), which formed on carnation leaf agar, and colonies of the fungus on PDA (lower left and lower right).