

THE PATHOLOGICAL AND PHYSIOLOGICAL STUDY OF *Nattrassia mangiferae* THE CAUSE OF SHADE TREES DECLINE IN SHIRAZ CITY *

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Abstract

From aerial parts of declining shade trees, a fungus was consistently recovered and purified and based on morphological features was identified as *Nattrassia mangiferae* form 1. The pathogen was isolated from 16 species of plants in 16 families. Pathogenicity of 70 isolates of *N. mangiferae* was confirmed on 10 plant species under natural and greenhouse conditions. Disease symptoms on the detached stems in the laboratory appeared in three different types: canker, dense and thin sooty layers of arthrospores. On fresh detached shoots, although the pathogen produced canker but the progress of the disease was slow with little sporulation. Minimum, optimum and maximum temperatures for growth on potato dextrose agar; were 15-20, 30-35, 35-37° C, respectively. Surveying air spora in Shiraz during summer using vaseline coated microscopic slides and Petri plates containing PDA supplemented with PCNB (100 mg/l) and Benomyl (100 mg/l) with lid off, yielded few spores of *N. mangiferae*.

Keywords: Shade trees decline, Ornamental tree, *Hendersonula toruloidea* Natt., Maple tree.

See persian text for figures and tables (Pages ۱۰۵-۱۰۹).

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References

- AYAZPOUR, K. and SALEHI, M. 2004. Identified of hosts *Nattrassia mangiferaea* in Jahrom. **Proc. 16th Iran. Plant Protec. Cong.** Tabriz, Iran. 435 (Abst).
- BANIHASHEMI, Z. 1983. **A Guide to the Important Disease of Major Agricultural Crops in Fars Province.** Department of Plant Protection., Shiraz University, 33 p. (in Persian).
- GENTLES, J.C. and EVANS, G. V. 1970. Infection of the feet and nails with *Hendersonula toruloidea*. **Sabourraudia** 8:72-75.
- GIHA, O.H. 1975. *Hendersonula toruloidea* associated with a serious disease of shade trees in the Sudan. **Plant Dis. Repr.** 59:899-902.
- HEYDARIAN, A. and MINASIAN, M. 1995. Citrus branch wilt, death and decline disease caused by *Nattrassia mangiferae* and its other hosts in Khouzestan province. **Proc. 12th Iran. Plant Protec. Cong.** Karaj, Iran. 230 (Abst).
- JAYASINGHE, C.K. and SILVA, P.K. 1994. Foot canker and sudden wilt of *Hevea brasiliensis* associated with *Nattrassia mangiferae*. **Plant Pathol.** 43:938-940.
- MISIKITA, W., BISSANG, B., JAMES, B.D., BAIMEY, H., WILKINSON, H.T., AHOUNOU, M. and FAGBEMISSI, R. 2005. Prevalence and severity of *Nattrassia mangiferae* root and stem rot pathogen of cassava in Benin. **Plant Dis.** 89:12-16.
- MOOR, M. K. 1988. Morphological and physiological studies of isolates of *Hendersonula toruloideae* Natrass, Cultured from human skin and nail sample. **Med. Vet. Mycol.** 26:25-39.
- NATTRASS, R.M. 1933. A new species of *Hendersonula toruloideae* on deciduous Trees in Egypt. **Trans. Brit. Mycol. Soc.** 18: 189 – 198.
- PANDEY, R.S., BHARGAVA, S.N., SHUKLA, D.N. and KHATI, D.V.S. 1981. A new leaf spot disease of mango. **Plant Dis.** 65:441-442.
- RAHNAMA, K. 1996. Cupressus branch wilt, death and decline caused of *Nattrassia mangiferae*. **Proc. 13th Iran. Plant Protec. Cong.,** Karaj, Iran, 264 (Abst).
- SIGLER, L., RICHARD, C., POOLE, L., WIEDEN, M. and SUTTON, D.A. 1997. Invasive *Nattrassia mangiferae* infections: Case report, literature review and therapeutic and taxonomic appraisal. **Clinic Microbiol.** 35: 433-440.
- SUTTON, B.C. and DYKO, B.J. 1989. Revision of *Hendersonula*. **Mycol. Res.** 93(4):466-488.