

NEW INFORMATION ON THE FORM-GENUS CYTOSPORA IN IRAN (I)

**Kh.B. FOTOUHIFAR^{*}, Gh.A. HEDJAROUDE, D. ERSHAD,
S.M. MOUSSAVI, S.M. OKHOVVAT and M. JAVAN NIKKHAH**

University College of Agricultural & Natural Resources, Tehran University and
Iranian Research Institute of Plant Protection

Received: 21.05.2007

Accepted: 25.08.2007

In order to study of the form-genus *Cytospora*, around 400 specimens were collected from all over the Iran during 2003-2005. In this paper, the first part of the obtained results, including seven form-species are presented. *Cytospora atrocirrhata*, *C. carbonacea*, *C. gutnerae*, *C. nivea* and *C. rosarum* are reported as new members for mycoflora of Iran. Also, *Vitis vinifera* for *C. leucostoma* and *Celtis australis* and *Populus alba* for *C. translucens* are reported as new hosts (matrix nova) in the world.

Key words: Fungi, Taxonomy, Biodiversity, Coelomycetes

To observe the figures, refer to the Persian text.

* Corresponding author (E-mail: fotouhi@ut.ac.ir)

References

- ADAMS, G.C., WINGFIELD, M.J., COMMON, R. and ROUX, J. 2005. Phylogenetic relationships and morphology of *Cytospora* species and related teleomorphs (*Ascomycota*, *Diaporthales*, *Valsaceae*) from *Eucalyptus*. Studies in Mycology 52: 1-149.
- ADAMS, G.C., ROUX, J. and WINGFIELD, M.J. 2006. *Cytospora* species (*Ascomycota*, *Diaporthales*, *Valsaceae*): introduced and native pathogens of tree in South Africa. Australian Plant Pathology 35: 521-548.
- AHMADI, F. and BANIHASHEMI, Z. 2006. Role of *Cytospora* species on walnut decline in southern Iran. 17th Iranian Plant Protection Congress, p. 313.
- ASHKAN, M. 1997. Studies on *Cytospora* canker of *Salix zygostemon*. Iran. J. Plant Path. 33(1-2): 36-41.
- ASHKAN, M and HEDJAROUDE, G.A. 1981. Taxonomic and pathologic studies of form genus *Cytospora* on fruit trees in Iran, I. Taxonomy. Iran. J. Plant Path. 17(1-4): 21-68.
- ASHKAN, M. and HEDJAROUDE, G.A. 1982. Taxonomic and pathologic studies of form genus *Cytospora* on fruit trees in Iran, II. Pathology. Iran. J. Plant Path. 18(1-4): 20-67.
- BIGGS, A.R. 1989. Integrated control of *Leucostoma* canker of peach in Ontario. Plant Disease 73: 869-874.
- CHRISTENSEN, C.M. 1940. Studies on the biology of *Valsa sordida* and *Cytospora chrysosperma*. Phytopathology 30: 459-475.
- EHRENBERG, C.G. 1818. *Sylvae Mycologicae Berolinenses. Formis Theophilii Bruschke*, Berlin, Germany.
- ERSHAD, D. 1995. Fungi of Iran, 2nd edition, Agricultural Research, Education & Extension Organization, Tehran.
- ESFANDIARI, E. 1946. Contribution à l'étude de la mycoflore de l'Iran. Dept. Gen. Protect. Plant, Tehran.
- ESFANDIARI, E. 1948. Troisième liste des fungi ramssés en Iran. Entomologie Phytopath. Appl. 8: 1-15.
- FRAGOSO, R.G. 1918. *Pugillus secundus mycetorum Persiae (Lecti a ferd. Martinez de la Escalera)*. Boln R. Sco. Esp. Hist. Nat. 18: 78-85.

-
- FRIES, E.M. 1823. *Systema Mycologicum*. Vol. 2(2), Berling, Lundae, Germany.
- GROVE, W.B. 1935. *British Stem- and Leaf- Fungi*, Vol. 1, *Sphaeropsidales*. Cambridge University Press, UK.
- GUTNER, L.S. 1935. Contributions to a monograph of the genus *Cytospora*. Trudy Botanicheskogo Instituta Akademii Nauk SSSR, Ser. 2, Sporovye Rasteniya 2: 411-484.
- GVRITISHVILI, M.N. 1973. *Cytospora atrocirrhata* Gvrit. Mikol. Fitopatol. 7(6): 544.
- GVRITISHVILI, M.N. 1982. The fungal genus *Cytospora* in the USSR. Izdatelstve Sabchota Sakarstvelo, Tbilici, Russia.
- HAYOVA, V.P. and MINTER, D.W. 1998a. *Leucostoma niveum*. IMI Descriptions of Fungi and Bacteria. Set 137, No. 1362, CAB International, UK.
- HAYOVA, V.P. and MINTER, D.W. 1998b. *Leucostoma persoonii*. IMI Descriptions of Fungi and Bacteria. Set 137, No. 1363, CAB International, UK.
- VON HÖHNEL, F. 1914. Fragmente zur Mykologie 863. Über *Dendrophoma pruinosa* (Fr.) Sacc. Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften zu Wien, Mathematisch Naturwissenschaftliche Klasse, Abteilung 1, 123: 84-86.
- VON HÖHNEL, F. 1917. System der Diaportheen. Berichte der Deutschen Botanischen Gesellschaft 35: 631-638.
- VON HÖHNEL, F. 1918. Über die allantoidsporigen Sphaeriaceen. Annales Mycologici 16: 127-132.
- VON HÖHNEL, F. 1919. Zu meinem System der Diaportheen. Annales Mycologici 17: 131.
- VON HÖHNEL, F. 1923. System der Fungi Imperfecti Fuckel. Mykologische Untersuchungen und Berichte 1: 301-369.
- VON HÖHNEL, F. 1927. Über die Europaischen Valseen und *Cytospora*-Arten auf *Cornus*. Mitteilungen aus dem Botanischen Laboratorium der Technischen Hochschule in Wien 4: 69-73.
- VON HÖHNEL, F. 1928. Über *Cytospora melanodiscus* (Otth.) Höhn. Mitteilungen aus dem Botanischen Laboratorium der Technischen Hochschule in Wien 5: 16-18.
- NANNFELDT, J.A. 1932. Studien über die Morphologie und Systematik der nichtlichenisierten, inoperculaten Discomyceten. Nova Acta Regiae Societatis Scientiarum Uppsaliensis, Series 4, 8(2): 1-368.

-
- PETRAK, F. 1949. Beitrage zur Plizflora Irans. *Sydowia* 3: 268-332.
- PETRAK, F. and Esfandiari E, 1941. Beitrage zur Kenntnis der Iranischen Plizflora. *Ann. Mycol.* 39, 204-228.
- RAYNER, R.W. 1970. A mycological colour chart. Commonwealth Mycological Institute, Kew. Surrey, UK.
- SACCARDO, P.A. 1882–1931. *Sylloge Fungorum. Typis Seminarii*, Vol. 1-25, Pavia, Italy.
- SCHARIF, G. and ERSHAD, D. 1966. A list of fungi on cultivated plants, shrubs and trees of Iran. Ministry of Agriculture, Plant Pests & Diseases Research Institute, Evin, Tehran.
- SPIELMAN, L.J. 1980. *Cytospora* vs. *Cytispora*: Which is correct? *Mycotaxon* 10: 473-478.
- SPIELMAN, L.J. 1983. Taxonomy and biology of *Valsa* species on hardwoods in North America, with special reference to species on maples. PhD thesis. Cornell University, Ithaca, USA.
- SPIELMAN, L.J. 1985. A monograph of *Valsa* on hardwoods in North America. *Canadian Journal of Botany* 63: 1355-1387.
- STEYAERT, R.L. 1953. Forest tree diseases (translated copy in Persian by A. Manuchehri and G. Scharif). Forest Organization, Tehran, Iran.
- TAHER-KHANI, K., ERSHAD, J. and NASSIRPOUR, N. 2004. Study of *Cytospora* sheath-rot of sugarcane in Khuzestan. 16th Iranian Plant Protection Congress, p. 313.

Addresses of the authors: Kh.B. FOTOUHIFAR, Dr. Gh.A. HEDJAROUDE, Dr. S.M. OKHOVVAT and Dr. M. JAVVAN NIKKHAH, Department of Plant Protection, College of Horticulture Science & Plant Protection, University College of Agricultural & Natural Resources, University of Tehran, Karaj 31587-11167, Iran and Dr. D. ERSHAD & S.M. MOUSSAVI, Department of Botany, Iranian Research Institute of Plant Protection, P.O. Box 1454, Tehran 19395, Iran.

NEW INFORMATION ON THE FORM-GENUS *CYTOSPORA* IN IRAN (I)

**Kh.B. FOTOUHIFAR^{*}, Gh.A. HEDJAROUDE, D. ERSHAD,
S.M. MOUSSAVI, S.M. OKHOVVAT and M. JAVAN NIKKHAH**

University College of Agricultural & Natural Resources, Tehran University and
Iranian Research Institute of Plant Protection

Received: 21.05.2007

Accepted: 25.08.2007

In order to study of the form-genus *Cytospora*, around 400 specimens were collected from all over the Iran during 2003-2005. In this paper, the first part of the obtained results, including seven form-species are presented. *Cytospora atrocirrhata*, *C. carbonacea*, *C. gutnerae*, *C. nivea* and *C. rosarum* are reported as new members for mycoflora of Iran. Also, *Vitis vinifera* for *C. leucostoma* and *Celtis australis* and *Populus alba* for *C. translucens* are reported as new hosts (matrix nova) in the world.

Key words: Fungi, Taxonomy, Biodiversity, Coelomycetes

To observe the figures, refer to the Persian text.

* Corresponding author (E-mail: fotouhi@ut.ac.ir)

References

- ADAMS, G.C., WINGFIELD, M.J., COMMON, R. and ROUX, J. 2005. Phylogenetic relationships and morphology of *Cytospora* species and related teleomorphs (*Ascomycota*, *Diaporthales*, *Valsaceae*) from *Eucalyptus*. Studies in Mycology 52: 1-149.
- ADAMS, G.C., ROUX, J. and WINGFIELD, M.J. 2006. *Cytospora* species (*Ascomycota*, *Diaporthales*, *Valsaceae*): introduced and native pathogens of tree in South Africa. Australian Plant Pathology 35: 521-548.
- AHMADI, F. and BANIHASHEMI, Z. 2006. Role of *Cytospora* species on walnut decline in southern Iran. 17th Iranian Plant Protection Congress, p. 313.
- ASHKAN, M. 1997. Studies on *Cytospora* canker of *Salix zygostemon*. Iran. J. Plant Path. 33(1-2): 36-41.
- ASHKAN, M and HEDJAROUDE, G.A. 1981. Taxonomic and pathologic studies of form genus *Cytospora* on fruit trees in Iran, I. Taxonomy. Iran. J. Plant Path. 17(1-4): 21-68.
- ASHKAN, M. and HEDJAROUDE, G.A. 1982. Taxonomic and pathologic studies of form genus *Cytospora* on fruit trees in Iran, II. Pathology. Iran. J. Plant Path. 18(1-4): 20-67.
- BIGGS, A.R. 1989. Integrated control of *Leucostoma* canker of peach in Ontario. Plant Disease 73: 869-874.
- CHRISTENSEN, C.M. 1940. Studies on the biology of *Valsa sordida* and *Cytospora chrysosperma*. Phytopathology 30: 459-475.
- EHRENBERG, C.G. 1818. *Sylvae Mycologicae Berolinenses. Formis Theophilii Bruschke*, Berlin, Germany.
- ERSHAD, D. 1995. Fungi of Iran, 2nd edition, Agricultural Research, Education & Extension Organization, Tehran.
- ESFANDIARI, E. 1946. Contribution à l'étude de la mycoflore de l'Iran. Dept. Gen. Protect. Plant, Tehran.
- ESFANDIARI, E. 1948. Troisième liste des fungi ramssés en Iran. Entomologie Phytopath. Appl. 8: 1-15.
- FRAGOSO, R.G. 1918. *Pugillus secundus mycetorum Persiae (Lecti a ferd. Martinez de la Escalera)*. Boln R. Sco. Esp. Hist. Nat. 18: 78-85.

-
- FRIES, E.M. 1823. *Systema Mycologicum*. Vol. 2(2), Berling, Lundae, Germany.
- GROVE, W.B. 1935. *British Stem- and Leaf- Fungi*, Vol. 1, *Sphaeropsidales*. Cambridge University Press, UK.
- GUTNER, L.S. 1935. Contributions to a monograph of the genus *Cytospora*. Trudy Botanicheskogo Instituta Akademii Nauk SSSR, Ser. 2, Sporovye Rasteniya 2: 411-484.
- GVRITISHVILI, M.N. 1973. *Cytospora atrocirrhata* Gvrit. Mikol. Fitopatol. 7(6): 544.
- GVRITISHVILI, M.N. 1982. The fungal genus *Cytospora* in the USSR. Izdatelstve Sabchota Sakarstvelo, Tbilici, Russia.
- HAYOVA, V.P. and MINTER, D.W. 1998a. *Leucostoma niveum*. IMI Descriptions of Fungi and Bacteria. Set 137, No. 1362, CAB International, UK.
- HAYOVA, V.P. and MINTER, D.W. 1998b. *Leucostoma persoonii*. IMI Descriptions of Fungi and Bacteria. Set 137, No. 1363, CAB International, UK.
- VON HÖHNEL, F. 1914. Fragmente zur Mykologie 863. Über *Dendrophoma pruinosa* (Fr.) Sacc. Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften zu Wien, Mathematisch Naturwissenschaftliche Klasse, Abteilung 1, 123: 84-86.
- VON HÖHNEL, F. 1917. System der Diaportheen. Berichte der Deutschen Botanischen Gesellschaft 35: 631-638.
- VON HÖHNEL, F. 1918. Über die allantoidsporigen Sphaeriaceen. Annales Mycologici 16: 127-132.
- VON HÖHNEL, F. 1919. Zu meinem System der Diaportheen. Annales Mycologici 17: 131.
- VON HÖHNEL, F. 1923. System der Fungi Imperfecti Fuckel. Mykologische Untersuchungen und Berichte 1: 301-369.
- VON HÖHNEL, F. 1927. Über die Europaischen Valseen und *Cytospora*-Arten auf *Cornus*. Mitteilungen aus dem Botanischen Laboratorium der Technischen Hochschule in Wien 4: 69-73.
- VON HÖHNEL, F. 1928. Über *Cytospora melanodiscus* (Otth.) Höhn. Mitteilungen aus dem Botanischen Laboratorium der Technischen Hochschule in Wien 5: 16-18.
- NANNFELDT, J.A. 1932. Studien über die Morphologie und Systematik der nichtlichenisierten, inoperculaten Discomyceten. Nova Acta Regiae Societatis Scientiarum Uppsaliensis, Series 4, 8(2): 1-368.

-
- PETRAK, F. 1949. Beitrage zur Plizflora Irans. *Sydowia* 3: 268-332.
- PETRAK, F. and Esfandiari E, 1941. Beitrage zur Kenntnis der Iranischen Plizflora. *Ann. Mycol.* 39, 204-228.
- RAYNER, R.W. 1970. A mycological colour chart. Commonwealth Mycological Institute, Kew. Surrey, UK.
- SACCARDO, P.A. 1882–1931. *Sylloge Fungorum. Typis Seminarii*, Vol. 1-25, Pavia, Italy.
- SCHARIF, G. and ERSHAD, D. 1966. A list of fungi on cultivated plants, shrubs and trees of Iran. Ministry of Agriculture, Plant Pests & Diseases Research Institute, Evin, Tehran.
- SPIELMAN, L.J. 1980. *Cytospora* vs. *Cytispora*: Which is correct? *Mycotaxon* 10: 473-478.
- SPIELMAN, L.J. 1983. Taxonomy and biology of *Valsa* species on hardwoods in North America, with special reference to species on maples. PhD thesis. Cornell University, Ithaca, USA.
- SPIELMAN, L.J. 1985. A monograph of *Valsa* on hardwoods in North America. *Canadian Journal of Botany* 63: 1355-1387.
- STEYAERT, R.L. 1953. Forest tree diseases (translated copy in Persian by A. Manuchehri and G. Scharif). Forest Organization, Tehran, Iran.
- TAHER-KHANI, K., ERSHAD, J. and NASSIRPOUR, N. 2004. Study of *Cytospora* sheath-rot of sugarcane in Khuzestan. 16th Iranian Plant Protection Congress, p. 313.

Addresses of the authors: Kh.B. FOTOUHIFAR, Dr. Gh.A. HEDJAROUDE, Dr. S.M. OKHOVVAT and Dr. M. JAVVAN NIKKHAH, Department of Plant Protection, College of Horticulture Science & Plant Protection, University College of Agricultural & Natural Resources, University of Tehran, Karaj 31587-11167, Iran and Dr. D. ERSHAD & S.M. MOUSSAVI, Department of Botany, Iranian Research Institute of Plant Protection, P.O. Box 1454, Tehran 19395, Iran.