Institute of Biology, Faculty of Science, University of Novi Sad, 21000 Novi Sad, Serbia

OCCURRENCE OF XIPHINEMA SPECIES IN THE FORMER YUGOSLAVIA

SUPPLEMENT TO THE “ATLAS OF PLANT PARASITIC NEMATODES OF YUGOSLAVIA”

by

L. Barsi

Summary. In the “Atlas of Plant Parasitic Nematodes of Yugoslavia” (Ivezić, 1985) the distribution of Xiphinema brevicolle, X. diversicaudatum, X. index, X. italicae, X. pachtaicum and X. vuittenezi were presented in maps based on 10 km square of the Universal Transverse Mercator grid. In the period 1985-1994 further data on presence and distribution of these and other species viz. X. dentatum, X. globosum, X. incertum, X. simile and X. taylori have been accumulated. The localities and host plants for each Xiphinema species found in the territory of the former Yugoslavia in the period 1985-1994 are presented in this paper.


Materials and methods

The lists of localities and host plants for each Xiphinema species found in the territory of the former Yugoslavia were compiled from the published (Barsi, 1989, 1992a, 1992b, 1993, 1994; Barsi and Horvatović, 1986; Barsi and Radišić, 1992) and some unpublished data. Apart from a small, intensive survey in a restricted area (Barsi and Horvatović, 1986; Barsi and Radišić, 1992), the data have been acquired in a more or less haphazard way during research and collecting trips in some parts of the former Yugoslavia. Samples came partly from cultivated lands and partly from natural, uncultivated habitats. Occurrence of each species is listed as a UTM grid reference.

Distribution of Xiphinema species

Xiphinema dentatum

Locality and host: XJ98; Poriče (Carpinus betulus L.); CQ50: Drinjača (Corylus avellana

1 Former Yugoslavia: as a whole geographical territory.
Xiphiphema diversicaudatum

Locality and host: DS11: Horgoš (grapevine); DS20: Kanjiža (Amorpha fruticosa L.); CR36: Apatin (Fraxinus sp., Rubus caesius L., Salix sp.); CR37: Bački Monoštor (Populus sp.); CR61: Mladenovo - bank of the Dunavac (Populus sp., Fraxinus sp., Salix alba L.); CR71: Bačka Palanka (A. fruticosa); DR00: Novi Sad (A. fruticosa); DR20: Koviľar meadow (Acer negundo L., R. caesius, Urtica dioica L.); DR21: Koviľar meadow (Fraxinus sp., U. dioica); DR28: Senta (grapevine); DR29: Nadrljan (A. fruticosa), Sentanadrljan (A. fruticosa); DR32: bank of the river Tisa (A. fruticosa); DR50: Perlez (R. caesius) DR71: bank of the river Tamiš at Tomaševac (A. fruticosa); DQ24: Kupinovo (A. fruticosa); CN10: Stoliv (grapevine); EN99: Ostrovica - bank of the river Nišava (Populus tremula L.)

Xiphiphema globosum

Locality and host: VM42: Podbrezje (Picea excelsa (Lam) Lk.); VL29: Idrija (Pteridium aquilinum (L.) Kuhn).

Xiphiphema incertum

Locality and host: UL91: Gedići (grapevine); VL01: Ferenci (grapevine).

Xiphiphema index

Locality and host: UL91: Kaštelir (grapevine); VL14: Kubed (grapevine); YH04: Zarodež (grapevine); VK79: Polje - island Krk (grapevine); YH34: Slano (grapevine).

Xiphiphema italicae

Locality and host: DS10: Bački Vinograd (grassland); Male Pijace-Horgoš (grapevine); CR95: Lovčenac (Linum austriacum L., Vitis sp.); EL99: Negotino (grapevine); DR01: Novi Sad (Populus sp.); DR38: Čoka (grapevine); EQ06: Deliblatska peščara (Primus mabaleb L., Sambucus nigra L., Crataegus sp.).

Xiphiphema pachtaicum

Locality and host: CS90: Subotica (grapevine); DS10: Male Pijace (grassland); Male Pijace-Horgoš (grapevine); DS20: Kanjiža (ornamental shrubbery); CR41: Mikluševci (pea, onion); CR55: Doroslovce (grapevine); CR57: Sombor (ornamental shrubbery, grapevine); CR87: Oreškovič (Theurctium chamaedrys L., Salvia sp.), Bajša (Verbascum phoeniceum L.); CR90: Červević (grapevine); CR91: Begeč (Populus sp.); CR95: Lovčenac (grassland); DR00: Ledinci (grapevine, peach, Picea sp., walnut), Novi Ledinci (Acer campestre L., Vitis sp., Cornus sanguinea L.), Liparija (Tilia argentea Desf., C. avellana, Vitis sp.), Rakovac (peach); DR01: Novi Sad (Abies concolor Lin. et Gor., Thuja orientalis L., Buxus sempervirens L., Mahonia aquifolium (Pursh.) Nutt., P. excelsa, Populus nigra L., Sequoiaendron giganteum (Lindl.) Buchh., Sophora japonica L., Taxus baccata L., Tilia tomentosa Mch.), Rimski Šančevi (maize, wheat); DR04: Srbobran (ornamental shrubbery); DR11: Petrovaradin (grapevine); DR18: Bogaraš (T. orientalis); DR22: Žabalj (Euphorbia sp., maize); DR25: Bečej (fig); DR28: Senta (grapevine, maize); DR29: Senta-Nadrljan (grassland); DR30: Titel (Trifolium sp.); DR38: Čoka (grapevine); DR52: Zrenjanin (ornamental shrubbery, Populus sp.); DR53: Jankov Most (Euphorbia cyparissias L.); CQ99: Bešenovo (peach); DQ68: Glogonj (grapevine); DQ69: Debeljača (apricot); EQ06: Deliblato sand (Robinia pseudoacacia L.); EL99: Negotino (grapevine); EN89: Sicevo (grapevine); UL91: Gedići (grapevine), Kaštelir (grapevine); VL01: Ferenci (grapevine); VL14: Kubed (grapevine); VL38: Hotedršica (P. aquilinum); WL37: Prekropa (grassland); YH04: Zarodež (grapevine); BN83: Trebinje (grapevine); CM44: Valdanos (grassland); CM54: Ulcinj (P. aquilinum).
Fig. 1 - Universal Transverse Mercator projection map of the former Yugoslavia with UTM grid reference letters (top); sampling stations which proved positive for *Xipbinema* (bottom).
Xiphinema simile

Locality and host CM54: Ulcinj (P. aquilinum); DR22, DR32: Žabalj (E. cyparissias, Euphorbia sp., Carduus nutans L.); DR39: Sanad (Trifolium campestre Schreb.); DS10: Male Pijace (saliferous grassland); EN89: Niš (grapevine); FL15: Konsko (Platanus orientalis L.).

Xiphinema taylorni

Locality and host: DR00: Novi Ledinci (Picea sp.); EQ06: Deliblatska peščara (P. mahaleb, Crotaegus sp., S. nigra); VM33: Lipnica (grassland); W139: Rožno (grassland); WM10: Zidani Most (Rubus sp.); XL81: Bačin Dol (Doronicum sp.).

Xiphinema vuittenezi

Locality and host CS90: Subotica (grapevine, ornamental shrubbery); DS00: Palić (Festuca sp.); DS10: Male Pijace-Horgoš (grapevine); DS20: Kanjiža (A. fruticosa); DS31: Djala (grapevine); CR55: Doroslovo (grapevine); CR57: Sombor (cauliﬂower, grapevine); CR72: Silbaš (hop); CR87: Bajša (grapevine); CR90: Čeřević (grapevine), Beočin-Crveni Čot (Rubus sp., Rosa sp.); CR91: Begeč (Populus sp.); CR92: Bački Petrovac (hop); CR95: Lovćenac (Prunus avium L., Vitis sp., L. austriacum); CR98: Žednik (E. cyparissias); DR00: Beočin (rose); Ledinci (grapevine, Picea sp.); Rakovac (Crotaegus sp., grapevine, peach); Ledinci (grapevine, Picea sp.); Stari Ledinci (Rubus sp.); Crveni Čot-Iriški venac (Rubus sp.); DR01: Novi Sad (A. concolor, M. aquifolia, P. excelsa, Pinus strobus L., Platanus acerifolia Ait., S. giganteum, S. japonica, T. baccata, Thuja occidentalis L.); Rimski Šančevi (maize, sugar beet, wheat); DR04: Srbobran (ornamental shrubbery); DR10: Sremski Karlovci (grapevine, P. avium); DR11: Petrovaradin (grapevine); DR18: Bogaraš (T. orientalis); DR23: Čurug (mud from the bank of Tisa backwater); DR24: Bačko Gradište (onion); DR25: Bečej (grapevine); DR28: Senta (grapevine, pear, raspberry, T. orientalis, P. excelsa); DR29:

Senta-Nadrljan (grassland); DR38: Čoka (grapevine); DR40: Titel (wheat); DR52: Zrenjanin (Populus sp.); CQ99: Bešenovo (peach); DQ38: Stara Pazova (rose); DQ68: Glogonj (grapevine); DQ69: Debeljača (apricot, plum, walnut); WM94: Jeruzalem (grapevine); WL37: Prekropa (grassland); EN89: Niš (grapevine).

Comments

Xiphinema americanum group is represented by four species such as X. incertum, X. pachtaicum, X. simile and X. taylorni. Earlier records of X. brevicolle (Ivezić, 1985; Barsi, 1989) refer to X. taylorni.

X. pachtaicum is one of the most widespread species and was found associated with a wide range of cultivated and wild plants. Together with X. vuittenezi, it is the most frequent Xiphinema species in vineyards.

X. incertum was found twice exclusively in Istria in the rhizosphere of grapevine. X. simile and X. taylorni were more frequently found in uncultivated soils in the north – and southeast and in the north of the territory respectively.

Species which are vectors of plant viruses are represented by X. diversicaudatum, X. index and X. italae.

X. diversicaudatum was predominantly found in the north-east of the territory, mostly in natural habitats along various rivers.

X. index was found exclusively in vineyards of the Adriatic coast.

X. italae was found in both cultivated and uncultivated soil.

X. vuittenezi and X. pachtaicum were the most widespread Xiphinema species in the territory of the former Yugoslavia. The former species was found in vineyards in the continental part and it was found in the rhizosphere of a wide range of cultivated or uncultivated plants.

X. dentatum and X. globosum, two closely related species, were found in uncultivated
soils. *X. dentatum* was found at several localities in the north-east of the territory, while *X. globosum* was found only twice in the northwest.

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**Literature cited**


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