CONTRIBUTION TO THE CHOROLOGICAL DATA OF SOME AQUATIC PLANTS IN BULGARIA

A. TOSHEVA1* and I. TRAYKOV2
1 Sofia University “St. Kliment Ohridski”, Faculty of Biology, Department of Botany, BG – 1164 Sofia, Bulgaria
2 Sofia University “St. Kliment Ohridski”, Faculty of Biology, Department of Ecology and Environmental Protection, BG – 1164 Sofia, Bulgaria

Abstract


New information on the distribution of some macrophytes from different types of limnetic water bodies in Bulgaria was presented. The chorological data are related to 9 species: *Ceratophyllum demersum*, *Lemna gibba*, *Myriophyllum spicatum*, *Myriophyllum verticilatum*, *Najas marina*, *Potamogeton gramineus*, *Potamogeton pectinatus*, *Potamogeton perfoliatus*, *Typha laxmanii*.

Key words: chorology, macrophytes, Bulgaria

Introduction

Despite its small territory, Bulgaria has quite rich and diverse flora, which is due to the geographic location of the country, its diverse landscape and geological history. As a result, total of 4030 vascular plant species (without mosses) occur in the country (Petrova and Vladimirov, 2010) of which the aquatic plants account for up to 9%. The main investigations on the distribution, ecology and composition of vegetation of water basins in Bulgaria are the works of Yordanoff (1931), Vodenicharov (1959), Kochev and Yordanoff (1981) and Kochev (1983) among others.


In the main editions for the Bulgarian flora – Flora NR Bulgaria (Jordanov, 1963; 1970; 1979), Guidebook to the higher plants in Bulgaria (Kozuharov, 1992), Key to the plants in Bulgaria (Delipavlov and Češmedžiev, 2003), Conspectus of the Bulgarian vascular flora (Assyov et al., 2012) the chorological data for the investigated species include their distribution according to the floristic regions and the altitude.

Materials and Methods

The transect method was used in the studied water bodies. Macrophytes were collected between June and September 2009–2012 in accordance to the altitude of the water bodies. The voucher specimens are deposited in the Herbarium of Sofia University “St. Kliment Ohridski” (SO).

The localities are indicated on an UTM Grid map of Bulgaria (Scale 1:1500 000, 10 km square) (Figure 1). Jordanov...
Results and Discussion

*Ceratophyllum demersum* L.

A new species for the following floristic regions: Western Balkan foothill region (Rabisha Reservoir, SO 107430) and Znepole region (Yarlovtsi Reservoir, SO 107436; Pchelina (Lobosh) Reservoir, SO 107432). Its presence was confirmed for the Eastern Rhodopes Mts (Studen Kladenets Reservoir, SO 107409).

The species has been known so far from the floristic regions Black Sea coast, North-Eastern Bulgaria, Danube plain, Balkan foothill region, Sofia region, Znepole region, Vitosha region, West frontier Mts, Struma valley, Mesta valley, Rhodopes Mts, Thracian plain, Tundzha hilly region, Strandzha Mts, up to 1505 m a.s.l. (Jordanov, 1979; Kozuharov, 1992; Delipavlov and Češmedžiev, 2003; Tosheva and Traykov, 2010; Assyov et al., 2012). Floristic element: Boreal.

*Myriophyllum spicatum* L.

A new species for the floristic regions Western Stara Planina Mts (Lakatnik Reservoir, SO 107405), Central (Yovkovtsi Reservoir, SO 107426) and Eastern Stara Planina Mts (Kamchiya Reservoir, SO 107419).

The species has been known so far from the floristic regions Black Sea coast, North-Eastern Bulgaria, Danube plain, Balkan foothill region, Sofia region, Znepole region, Vitosha region, West frontier Mts, Struma valley, Mesta valley, Rhodopes Mts, Thracian plain, Tundzha hilly region, Strandzha Mts, up to 1505 m a.s. l. (Jordanov, 1979; Kozuharov, 1992; Delipavlov and Češmedžiev, 2003; Tosheva and Traykov, 2010; Assyov et al., 2012). Floristic element: Boreal.

*Myriophyllum verticillatum* L.

A new species for the floristic regions Western Stara Planina Mts (Lakatnik Reservoir, SO 107407) and Western Rhodopes Mts. The distribution of the species was confirmed for Sofia region (Ognyanovo Reservoir, SO 107390) and was found by Petrova et al. (2010) in Lake Randislavtsi village, near Kostinbrud.

The species has been known so far from the floristic regions Black Sea coast, North-Eastern Bulgaria, Danube plain, Balkan foothill region, Central Stara Planina Mts, Sofia region, Znepole region, Thracian plain, Tundzha hilly region, up to 600 m a. s. l. (Jordanov, 1979; Kozuharov, 1992; Petrova et al, 2010; Delipavlov and Češmedžiev, 2003; Tosheva and Traykov, 2010; Assyov et al., 2012). Floristic element: Boreal.

*Najas marina* L.

A new species for the following floristic regions: Western Balkan foothill region (Rabisha Reservoir, SO 107430; Ogosta Reservoir, SO 107430). Its presence was confirmed for the Eastern Rhodopes Mts (Studen Kladenets Reservoir, SO 107409).

The species has been known so far from the floristic regions Black Sea coast, North-Eastern Bulgaria, Danube plain, Eastern Balkan foothill region, Western and Central Stara Planina Mts, Sofia region, Vitosha region, West frontier Mts, Struma valley, Western and Eastern Rhodopes Mts, Thracian plain, Tundzha hilly region, up to 1195 m a.s.l. (Jordanov, 1970; Kozuharov, 1992; Delipavlov and Češmedžiev, 2003; Tosheva and Traykov, 2010; Assyov et al., 2012). Floristic element: Cosmopolitan.

**Potamogeton gramineus L.**

A new species for the floristic regions Central Stara Planina Mts (Yovkovtsi Reservoir, SO 107429), Znepole region (Pchelina (Lobosh) Reservoir, SO 107433), Thracian plain (Rozov kladenets Reservoir, SO 107456) and Tundzha hilly region (Reservoir near Yambol, SO 107458) was mentioned by Kozuharov (1992), Delipavlov and Češmedžiev (2003) and Assyov et al. (2012) and was confirmed within the present study.

The species has been known so far from the floristic regions Black Sea coast, North-Eastern Bulgaria, Danube plain, Balkan foothill region, Znepole region, Strandzha Mts, up to 600 m a. s. l. (Jordanov, 1963; Kozuharov, 1992; Delipavlov and Češmedžiev, 2003; Tosheva and Traykov, 2010; Assyov et al., 2012). Floristic element: Boreal.

**Potamogeton pectinatus L.**

A new species for the floristic regions Western Stara Planina Mts (Svrazhen Reservoir, SO 107403). Its distribution in the Central Stara Planina Mts (Yovkovtsi Reservoir, SO 107429), Znepole region (Pchelina (Lobosh) Reservoir, SO 107433), Thracian plain (Rozov kladenets Reservoir, SO 107456) and Tundzha hilly region (Reservoir near Yambol, SO 107458) was mentioned by Kozuharov (1992), Delipavlov and Češmedžiev (2003) and Assyov et al. (2012) and was confirmed within the present study.

The species has been known so far from the floristic regions Black Sea coast, North-Eastern Bulgaria, Danube plain, Balkan foothill region, Central Stara Planina Mts, Sofia region, West frontier Mts, Struma valley, Eastern Rhodopes Mts, Thracian plain region, Strandzha Mts, up to 600 m a. s. l. (Jordanov, 1963; Kozuharov, 1992; Delipavlov and Češmedžiev, 2003; Tosheva and Traykov, 2010; Assyov et al., 2012). Floristic element: Cosmopolitan.

**Potamogeton perfoliatus L.**

A new species for the floristic regions North-Eastern Bulgaria (Ticha Reservoir, SO 107421; Saedienie Reservoir, SO 107396; Kavatsite (Popovo) Reservoir, SO 107416; Tsonevo Reservoir, SO 107397), Western Balkan foothill region (Ogosta Reservoir, SO 107423), Sofia region (Ogyanovo Reservoir, SO 107388) and Thracian plain (Pyasachnik Reservoir, SO 107434; Rozov kladenets Reservoir, SO 107457).

The species has been known so far from the floristic regions Black Sea coast, Danube plain, Tundzha hilly region, up to 1000 m a. s. l. (Jordanov, 1963; Kozuharov, 1992; Delipavlov and Češmedžiev, 2003; Assyov et al., 2012). Floristic element: Cosmopolitan.

**Typha laxmannii Lepech.**

A new species for the Vitosha region (Marchaevo Reservoir, SO 107394).

The species has been known so far from the floristic regions Black Sea coast, North-Eastern Bulgaria, Danube plain, Sofia region, Struma valley, Western Sredna gora Mts, Thracian plain, up to 300 m a. s. l. (Jordanov, 1964; Kozuharov, 1992; Delipavlov and Češmedžiev, 2003; Assyov et al., 2012). Floristic element: Med-Asiatic.

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**References**


