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A NEW STAND OF *OXYCOCCUS MICROCARPUS* TURCZ. EX RUPR. IN THE REGION OF WARMIA

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K e y w o r d s: small cranberry *Oxycoccus microcarpus* Turcz. ex Rupr., new stand, rare species, endangered species, vulnerable species.

A b s t r a c t

Floristic research carried out in the region of Warmia and Mazury led to the discovery, on 16 May 2011, of a small cranberry stand in a forest, in a small raised bog with enclaves characteristic of transitional moors. The discussed stand is situated in the southern part of the Olsztyn Forest Division, district 499, in the vicinity of the eastern boundary of the Lake Kośno landscape reserve.

NOWE STANOWISKO *OXYCOCCUS MICROCARPUS* TURCZ. EX RUPR. NA WARMII

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S ł o w a k l u c z o w e: żurawina drobnoowocowa *Oxycoccus microcarpus* Turcz. Ex Rupr., nowe stanowisko, gatunek rzadki, zagrożony i ustępujący.

A b s t r a k t

W trakcie badań florystycznych prowadzonych w województwie warmińsko-mazurskim 16.05.2011 r. stwierdzono występowanie żurawiny drobnoowocowej. Zajmowała niewielkie śródleśne torfowisko wysokie mające enklawy charakterystyczne dla torfowisk przejściowych. Opisywane stanowisko jest położone w południowej części Nadleśnictwa Olsztyn, w granicach oddziału 499, przy wschodniej granicy Rezerwatu krajobrazowego jezioro Kośno.

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Introduction

The small cranberry *Oxycoccus microcarpus* Turcz. ex Rupr. (*Vaccinium microcarpum* Turcz. ex Rupr. Schmalh) is a dwarf shrub of the heath family (*Ericaceae*) which colonizes cool and temperate zones of the northern hemisphere. It belongs to a small group of glacial relic species. The small cranberry is found mostly in raised bogs and transitional moors, on acidic soils (pH below 5) with a high moisture content. It is considered to be a characteristic species of the alliance *Oxycocco-Empetrion hermaphroditi* which comprises plant communities typical of raised bogs in the sub-arctic and boreal zones of the European continent (MATUSZKIEWICZ 2001).

The small cranberry (*Oxycoccus microcarpus*) bears a resemblance to the bog cranberry *Oxycoccus palustris* Pers. (*O. quadripetalus* Gilib., *Vaccinium oxycoccus* L.). The two species are generally found in the same habitats, and they are often confused.

Oxycoccus microcarpus is significantly smaller and more delicate than *Oxycoccus palustris*. *O. palustris* has ovate or oblong-ovate leaves, round at the base with blunt tips, whereas the leaves of *O. microcarpus* are more triangular in shape, wider at the base and narrowing towards the end, with sharp tips. *O. microcarpus* has annual shoots and petioles that are smooth or sparsely covered with hairs. Bracteoles are located at mid-length of the petiole or near its base (ZARZYCKI 1963, RUTKOWSKI 2006).

In Poland, *Oxycoccus microcarpus* is a rare, vulnerable species (RUTKOWSKI 2006) which is threatened by extinction (ZARZYCKI and SZELĄG 2006).

Results

The *Oxycoccus microcarpus* stand discovered on 16 May 2011 is situated in a forest, in a small raised bog whose fringe areas features enclaves characteristic of transitional moors. The bog is found in the southern part of the Olsztyn Forest Division, district 499, in the vicinity of the eastern boundary of Lake Kośno landscape reserve, between the villages of Łajs and Tylkowo (Figure 1 – stand marked with an asterisk).

The discussed bog occupies an area of 1.59 ha. It is surrounded by a 60-year-old *Serratulo-Pinetum* mixed coniferous forest (MATUSZKEWICZ 1981, MATUSZKIEWICZ J.M. 2001) with a predominance of the Scots pine (*Pinus sylvestris*). The oldest trees, aged 120–140 years, occupy the south-most section of the complex. The edges of the peat bog are largely dried-up. The only open-water zones are two small ponds in the southern and north-eastern parts of the bog. Pine trees demonstrate signs of strong succession. *O. microcarpus*

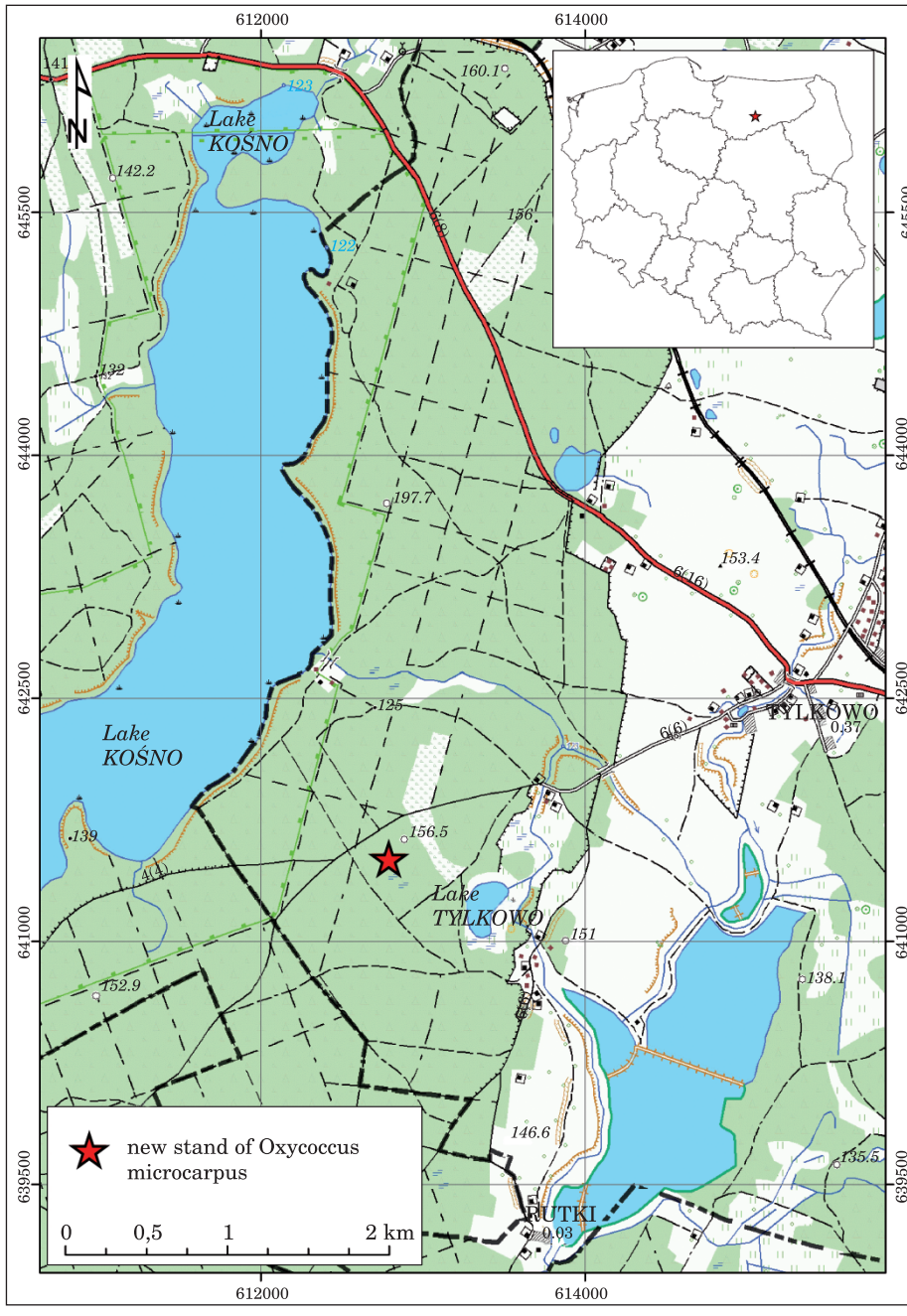

Fig. 1. New stand of *Oxycoccus microcarpus* localization

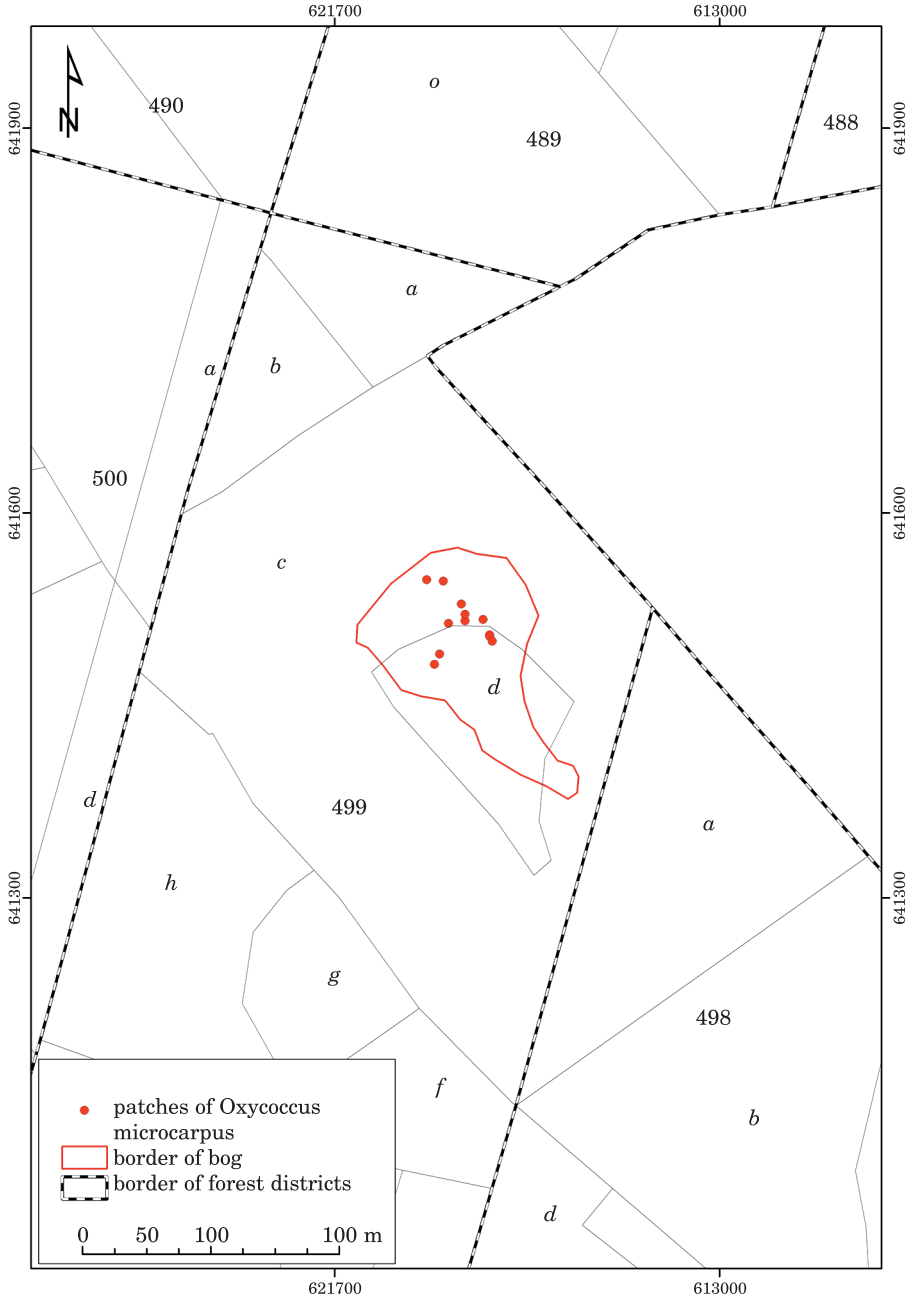

Fig. 2. Patches of *Oxycoccus microcarpus*

communities were found in 11 sites in northern and central parts of the bog (Figure 2). The small cranberry shows a preference for dried peat moss clusters raised around 30 cm above water level. In sites of the type, *O. microcarpus* creates dense communities that occupy an area of up to 2 m^2. The species colonizes its habitats by trailing in between individual plants of the bog cranberry (*O. palustris*), common sundew (*Drosera rotundifolia*) and tussock cotton-grass (*Eriophorum vaginatum*). Most individuals blossom and set fruit. Previous year's fruits were observed in several patches of *O. microcarpus*.

The habitats of *O. microcarpus* were colonized by four moss species: *Sphagnum fallax, Sphagnum magellanicum, Polytrichum strictum* and *Pleurozium schreberi,* two herbaceous plant species: *Eriophorum vaginatum* and *Drosera rotundifolia,* three dwarf shrub species: *Oxycoccus palustris, Andromeda polifolia* and *Vaccinium uliginosum* and juvenile forms of *Pinus sylvestris.* The fringe areas of the peat bog (in the east, north and west) are ecotones occupied by *Betula pubescens, Frangula alnus, Juniperus communis, Pinus sylvestris, Picea abies, Salix cinerea, Ledum palustre Lycopodium annotinum, Vaccinium myrtillus, Carex rostrata, C. nigra; C. canescens, Dryopteris cathusiana* and *Scirpus sylvaticus.*

The described bog is the second confirmed habitat of the small cranberry *O. microcarpus* in the region of Warmia and Mazury. In 1998, a well-preserved population of the species from the Redykajny peatland reserve in the Olsztyn Municipal Forest was described by Dziedzic. The presence of small cranberry stands has also been reported from the Zakręt reserve in the Masurian Landscape Park and the Mechacz Wielki reserve in the Romnicka Forest Landscape Park (DĄBROWSKI et al. 1999). The above localities of *O. microcarpus* have not been confirmed recently, and they should be regularly monitored. According to Abromeit (ABROMEIT et al. 1898–1940) nearest, histological stands of this species are located in raised bogs situated in Russia (Kaliningrad oblast), near Fischhausen (presently called Rybaki), Cranz (presently called Koronowo), Friedland (presently called Frydland) and Schwentlund.

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