

NEW DISTRIBUTIONAL DATA ON BRYOPHYTES OF POLAND
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ABSTRACT. This work presents a list of localities for the following species: *Bucklandiella heterosticha*, *Conocephalum salebrosum*, *Fuscocephaloziopsis lunulifolia*, *Hamatocaulis vernicosus*, *Harpanthus scutatus*, *Hedwigia ciliata*, *Leskea polycarpa*, *Lophoziopsis excisa*, *Odontoschisma denudatum*, *Schljakovia kunzeana*, *Sciuro-hypnum reflexum*, *Sphagnum riparium* and *Tomentypnum nitens*.

1. *Bucklandiella heterosticha* (Hedw.)
Bednarek-Ochyra & Ochyra

Authors: B. FOJCIK, M. WIERZGOŃ

ATMOS Fc-69: S Poland, Silesian Upland (Wyżyna Śląska), Rybnik Plateau (Płaskowyż Rybnicki), Rybnik town, district Zebrzydowice, 50.10537°N,

18.49029°E, boulder on wayside, Kosów Street 31, leg., det. B. Fojcik, M. Wierzoń, 24.04.2017 (KTU).

Bucklandiella heterosticha is an acidophilous, epilithic species, relatively rare in Poland (BEDNAREK-OCHYRA 1995). It is a relatively frequent species in northern Poland, especially in West Pomerania and in the Mazury region, where it grows exclusively on erratic

boulders. In central parts of the country it occurs only occasionally, while in the mountains it is quite frequent only in the Sudetes (BEDNAREK-OCHYRA et al. 1990, BEDNAREK-OCHYRA 1995). From the whole region of the Silesian Upland, *B. heterosticha* is known only from Szymiszów (*leg.* A. Graw, 19.09.1934, KRAM-B, LBL) (BEDNAREK-OCHYRA et al. 1990, BEDNAREK-OCHYRA 1995). The present data is the first from Rybnik Plateau (STEBEL 1997b), and the only current record in the Silesian Upland region.

2. *Conocephalum salebrosum* Szwejkowski, Buczkowska et Odrzykoski

Author: B. CYKOWSKA-MARZENCKA

ATMOS Gf-21: SE Poland, Beskid Niski Mts, Podkarpackie voivodship, Jasło county, Magurski National Park, in the forest 1 km W of the Polany village, 49.476389°N, 21.544444°E, alt. 480 m above sea level (a.s.l.), on sandstone near of the small stream in Carpathian beech forest, *leg.*, *det.* B. Cykowska-Marzencka, 3.07.2013 (KRAM); ATMOS Gf-31: SE Poland, Beskid Niski Mts, Podkarpackie voivodship, Jasło county, Magurski National Park, “Zimna Woda” area of strict protection, in the valley of the Zimna Woda stream, 1 km NW of Huta Polańska village, 49.456944°N, 21.527778°E, alt. 500 m a.s.l., on sandstone near of the Zimna Woda stream in Carpathian beech forest, *leg.*, *det.* B. Cykowska-Marzencka, 29.06.2013 (KRAM).

Conocephalum salebrosum appears to be frequent in Poland (SZWEJKOWSKI et al. 2005), but in some areas, it seems to be lacking. In the Polish Carpathians, it is known from the Bieszczady Zachodnie Mts, Beskid Żywiecki and Tatry Mts, with a maximum elevation of about 1700 m (SZWEJKOWSKI et al. 2005, STEBEL et al. 2011, KLAMA 2013b, GÓRSKI & VÁŇA 2014, WAJDA & KLAMA 2014). One of the areas where the species has not yet been reported is the Magurski National Park localized in the Beskid Niski Mts. From the area, it was reported closely related to *C. conicum* (MIERZEŃSKA 2000, 2001), and probably its specimens also contain *C. salebrosum*, because the data was published before the species was described (SZWEJKOWSKI et al. 2005). Recently, the species was found in the Magurski National Park in two localities, situated on wet sandstone stones near to streams.

3. *Fuscocephaloziopsis lunulifolia* (Dumort.) Váňa et L. Söderstr. [= *Cephalozia lunulifolia* (Dumort.) Dumort.]

Author: B. CYKOWSKA-MARZENCKA

ATMOS Gf-10: SE Poland, Beskid Niski Mts, Podkarpackie voivodship, Jasło county, Magurski National Park, forest on slopes of Mt Czereśla and Mt Ruskie Zamczyisko above Potasówka river, 3 km southeast of city Folsz, 49.590361°N, 21.408444°E, alt. 498

m a.s.l., on spruce stump in spruce forest, *leg.*, *det.* B. Cykowska-Marzencka, 23.08.2013 (KRAM); ATMOS Gf-21: SE Poland, Beskid Niski Mts, Podkarpackie voivodship, Jasło county, Magurski National Park, on slope of Mt Mereszka, at the source of river Potok Krokowy above village Wielka Świątkowa, 49.540000°N, 21.537367°E, alt. 404 m a.s.l., on spruce log in Carpathian beech forest, *leg.*, *det.* B. Cykowska-Marzencka, 19.07.2013 (KRAM).

Fuscocephaloziopsis lunulifolia seems to be a common lignicolous species, frequent also on peat. It occurs throughout the country, from the lowlands to the mountains, but there are areas where hitherto it has not been reported (SZWEJKOWSKI 2006, GÓRSKI 2013). In the Polish Carpathians, the species was found in all main mountain ranges, for most in several localities in each, like in the Tatry Mts (GÓRSKI & VÁŇA 2014), Bieszczady Zachodnie Mts (SZWEJKOWSKI & BUCZKOWSKA 1996, ZUBEL 2002, KLAMA 2013b), Gorcze Mts (MIERZEŃSKA 1994), Beskid Wysoki (KLAMA 2004, 2013a), Beskid Wyspowy (ZUBEL 2004), or Beskid Śląski Mts (MIERZEŃSKA & DREWNIOK 2000). In the Magurski National Park (Beskidy Środkowe Range, Beskid Niski Mts), the species was found for the first time in two localities (MIERZEŃSKA 2000, 2001).

4. *Hamatocaulis vernicosus* (Mitt.) Hedenäs

Author: P. PAWLIKOWSKI

ATMOS Af-86: NE Poland, Masurian Lake District (Pojezierze Mazurskie), Warmia-Masuria Province, Gołdap County, Dubeninki commune, Romincka Forest, 1.5 km NE of the Błędziszki and Błąkały villages, 54.32066°N, 22.64686°E, quaking mire adjacent to the vanishing small lake, extensive (hundreds of m²) carpets in sedge-moss fen, along with *Sphagnum teres*, *S. contortum*, *S. warnstorffii*, *Calliergon giganteum*, *Carex lasiocarpa* and *C. limosa*, *not.* P. Pawlikowski, 27.09.2007, 23.10.2011, *leg.*, *det.* P. Pawlikowski, 4.12.2017 (WA).

Hamatocaulis vernicosus is a species occurring primarily in very wet rich fens (DIERSSEN 2001, SZCZEPAŃSKI 2010), and is listed in Annex II of the European Union Habitat Directive (COUNCIL DIRECTIVE... 1992). It occurs throughout the territory of Poland, and apart from the young post-glacial landscape of N Poland, the species is threatened with extinction (STEBEL 2012). In the Warmia and Masuria Province its distribution is patchy, but it is locally abundant (ŁACHACZ & OLESIŃSKI 2000, ŁACHACZ & PISAREK 2002, HOŁDYŃSKI & KRUPA 2009, SZCZEPAŃSKI 2010, PAWLIKOWSKI 2017a, W. Pisarek unpubl. from the years 1995–2016, M. Szczepański unpubl. 1993–2017). In the Puszcza Romincka Forest, the species was recorded by STEFFEN (1931) from the present Russian part of the forest complex, and has recently been reported by PAWLIKOWSKI & JARZOMBKOWSKI (2010) from the “Struga Żytkiejmska” nature reserve.

5. *Harpanthus scutatus* (F. Weber et D. Mohr)
Spruce

Author: P. GÓRSKI

SLOVAKIA: MGRS 34UDV3957, Belianskie Tatra Mts., Západné Belianske Tatry, lower part of Nová dolina valley, 49.27152°N, 20.17341°E, alt. 975 m a.s.l., decaying log near Nový potok stream, *leg.*, *det.* P. Górski, 5.11.2015 (POZNB 1984); MGRS 34UDV3856, Belianskie Tatra Mts., Západné Belianske Tatry, Medzistenná dolina valley, near unmarked path, 49.25846°N, 20.16066°E, alt. 1085 m a.s.l., on decaying log, *leg.*, *det.* P. Górski, 5.11.2015 (POZNB 1992).

In the entire area of the Tatra Mts, 13 localities of *Harpanthus scutatus* have been recorded, within an altitude range of 800–1200 m a.s.l. (GÓRSKI & VÁŇA 2014). This epixylic liverwort is very rare in this massive due to the lack of well-preserved forest of primeval character. Most of all the known localities are reported from the Belianskie Tatra Mts (see DUDA & VÁŇA 1978, GÓRSKI & VÁŇA l.c.), including the first one (LIMPRICHT 1877a, b). Data published recently is also from that area (*leg.* P. Górski, 2012–2014, see GÓRSKI & VÁŇA l.c.).

6. *Hedwigia ciliata* (Hedw.) P. Beauv.

Authors: B. FOJCIK, M. WIERZGOŃ

ATMOS Fc-69: S Poland, Silesian Upland, Rybnik Plateau, Rybnik town, district Zebrzydowice, 50.10537°N, 18.49029°E, boulder on wayside, Kosów Street 31, *leg.*, *det.* B. Fojcik, M. Wierzgoń, 24.04.2017 (KTU).

Hedwigia ciliata is an epilithic species rare in Poland, which occurs on non-calcareous rocks. It is scattered throughout the country, mainly in the southern part (especially in Sudetes) and the northern lowlands (where it grows on erratic blocks) (OCHYRA et al. 1988b). From the whole region of the Silesian Upland, it is known only from two historical stations – Toszek (*leg.* A. Graw, 27.09.1932, LBL, OCHYRA et al. 1998b) and Zbrosławice (KUC 1956). The present data is the first from Rybnik Plateau (STEBEL 1997b) and the only current record in the Silesian Upland region.

7. *Leskea polycarpa* Hedw.

Authors: E. FUDALI, L. ŻOŁNIERZ

ATMOS Eb-48: SW Poland, Silesian Lowland (Nizina Śląska), Wrocław Valley (Pradolina Wrocławska), urban forests situated in NW suburbs of Wrocław, within its administrative borders: Las Pilczycki, 51.150626°N, 16.961180°E, bark of *Acer campestre* at height 1.2 m above the ground in oak-hornbeam forest, *leg.*, *det.* E. Fudali, L. Żołnierz, 18.06.2015 (KRAM); Las Rzędziński, 51.163756°N, 16.951977°E, bark of *Populus nigra* at height 1.4 m above the ground

in humid riverside forest, *leg.*, *det.* E. Fudali, L. Żołnierz, 10.09.2015; humid forests situated near the mouth of the Bystrzyca River in the Stabłowice settlement, 51.19121°N, 16.916439°E, base and stem of *Populus nigra* up to 1.2 m above the ground, *leg.*, *det.* E. Fudali, L. Żołnierz, 23.10.2015 (KRAM); ATMOS Eb-49: SW Poland, Silesian Lowland, Wrocław Valley, urban forests situated in N suburbs of Wrocław, within its administrative borders: Las Mokrzański, 51.157980°N, 16.871580°E, bark of *Quercus sessilis* (3 specimens) in oak-hornbeam forest, *leg.*, *det.* E. Fudali, L. Żołnierz, 17.06.2015 (KRAM); ATMOS Eb-59: SW Poland, Silesian Lowland, Wrocław Valley, southern part of the Wrocław city, Krzyki district: municipal park (Park Skowroni), 51.078890°N, 17.127177°E, barks of *Fraxinus excelsior* and *Acer campestre* at height more than 1 m above the ground, *leg.*, *det.* E. Fudali, L. Żołnierz, 5.10.2013 (KRAM).

Leskea polycarpa is an epiphytic moss species distributed through the whole area of Poland, but it occurs nowhere frequently (RUSIŃSKA 1981, SZCZEPAŃSKI et al. 2008, FUDALI 2013, FUDALI et al. 2015, FUDALI & WOLSKI 2015) with the exception of the Beskidy Mt ranges (STEBEL 2006b) and Wyżyna Krakowsko-Częstochowska Upland (FOJCIK 2011), where is classified as quite frequent or frequent. Ecologically, the species shows a preference for humid sites, and occasionally grows on walls (DIERSSEN 2001). In the past (19th century), *L. polycarpa* was not reported from the Wrocław environs nor from the city (MILDE 1869), and its first record from the Wrocław area is dated in the year 2000 (FUDALI 2001). Hitherto, two stations in Wrocław were published, both situated in municipal parks: Park Grabiszyniek – on the trunk of *Quercus robur* (FUDALI 2001) and Park Wschodni – on the trunk of *Fraxinus excelsior* (FUDALI 2007).

8. *Lophozia excisa* (Dicks.) Konst. et Vilnet
[= *Lophozia excisa* (Dicks.) Dumort.]

Author: B. CYKOWSKA-MARZENCKA

ATMOS Gf-31: SE Poland, Beskid Niski Mts, Podkarpackie voivodship, Jasło county, Magurski National Park, forest edge in the valley between Ciechania and Huta Polańska, 49.443611°N, 21.524167°E, alt. 520 m a.s.l., over soil on the path side at border of the meadow, in a damp and lit place, *leg.*, *det.* B. Cykowska-Marzencka, 23.08.2013 (KRAM).

Lophozia excisa is a widespread species but occurs usually in small quantities. The species is more frequent on lowlands, but occurs also in the mountains, especially in the forest and subalpine zones (SZWEYKOWSKI 2006). In the Polish Carpathians, it is known from scattered localities in the Bieszczady Mts (SZWEYKOWSKI & BUCZKOWSKA 1996), Beskid Żywiecko-Orawski Range (KLAMA 1996), Beskid Śląski Range (REJMENT-GROCHOWSKA 1950), Gorce

Mts (MIERZEŃSKA 1994) and Beskid Sądecki Range (MAMCZARZ 1977), and from the Tatra Mts, with the extreme location at an altitude of about 1950 m a.s.l. (GÓRSKI & VÁŇA 2014). In the Polish Eastern Beskidy Mts, *L. excisa* is newly found from the Beskid Niski Mts and the Magurski National Park (MIERZEŃSKA 2000, 2001).

9. *Odontoschisma denudatum* (Mart.) Dumort.

Authors: M. WIERZGOŃ, B. FOJCIK

ATMOS Fd-53: S Poland, Silesian Upland, Katowice city, Murcki Forest (Las Murckowski), 50.16028°N, 19.0702°E, on the well decaying stump with *Tetraphis pellucida*, *Herzogiella seligeri*, *Hypnum cupressiforme*, *Dicranella heteromalla* and *Lophocolea heterophylla* (small patch of 15 cm²) and on the log (less than 10 cm²) in mixed forest, leg., det. M. Wierzgoń, B. Fojcik, 18.10.2017 (KTU); 50.16065°N, 19.08868°E, on the well decaying pine log (small patch of 10 cm²), growing mainly with *Cephalozia bicuspidata* in coniferous forest, leg., det. M. Wierzgoń, B. Fojcik, 5.11.2017 (KTU).

This, in general rare, epixilic liverwort grows mostly in coniferous and birch swamp forest, spruce forest and swamps (GÓRSKI 2013). *Odontoschisma denudatum*, besides being found in the south-western (mainly Sudetes) and north-eastern parts of Poland, where it is rather widespread, has scattered stations in the other regions (SZWEYKOWSKI 2006). In the Silesian Upland, it is known only from two historical stations in Buczyna and Jeziorki – actually within the area of Jaworzno town (KRUPA 1882, STEBEL 2006a), and the present data are the only current records in this region.

10. *Schljakovia kunzeana* (Huebener) Konst. et Vilnet [= *Barbilophozia kunzeana* (Huebener) Müll. Frib.]

Author: P. GÓRSKI

SLOVAKIA, WESTERN TATRA MTS: MGRS 34UDV0448, broad pass between Mt Jalovská kopa and Mt Rázsocha, 49.18232°N, 19.69632°E, alt. 1855 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 1.09.2016 (POZNB 2187); northern slope of Mt Rázsocha, 49.18067°N, 19.69347°E, alt. 1901 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 19.10.2017 (POZNB 2484); MGRS 34UDV0548, N from Mt Jalovská kopa, NW slope coming down to Dolina Parichvost valley, 49.18595°N, 19.69780°E, alt. 1850 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 1.09.2016 (POZNB 2104); MGRS 34UDV0549, N from Jalovecke sedlo pass, NW slope coming down to Dolina Parichvost valley, *Polytrichum-Sphagnum* hummock, 49.18756°N, 19.70187°E, alt. 1820 m a.s.l., leg., det. P. Górski, 1.09.2016 (POZNB 2184); MGRS 34UDV1247, Otrhance,

Mt Nižná Magura, 49.17209°N, 19.79516°E, alt. 1840 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 18.09.2015 (POZNB 2245); MGRS 34UDV2051, NW from Mt Liptovská Tomanová, N slope, 49.21527°N, 19.91449°E, 49.21542°N, 19.91489°E, alt. 1785 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 27.08.2016 (POZNB 2089, 2090); HIGH TATRA MTS: MGRS 34UDV2048, middle part of Tichá dolina valley, 49.18778°N, 19.91470°E, alt. 1096 m a.s.l., rocky blocks near main touristic route, leg., det. P. Górski, 9.08.2017 (POZNB 2441, 2442); MGRS 34UDV2449, Kôprovnic valley (N part), ridge diverges from Výšňé Kôprovické sedlo pass to the west, rocky crevices with northern exposure, 49.19190°N, 19.96274°E, alt. 1775 m a.s.l., leg., det. P. Górski, 4.09.2016 (POZNB 2139); MGRS 34UDV2449, north-eastern slopes of Mt Zadný Holý vrch (upper part of Turkova dolina valley), 49.19373°N, 19.97048°E, alt. 1960 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 20.10.2017 (POZNB 2483); MGRS 34UDV2546, at the mouth of Kotlina (Krywańskie Koryto), near “Niedźwiedzia Perc” path, blocks of rock in dwarf mountain pine, 49.16932°N, 19.98377°E, alt. 1496 m a.s.l., leg., det. P. Górski, 10.08.2017 (POZNB 2465); 34UDV2550, upper part of Velké Licierovo (valley), glacier cirque between Mt Velká Kopa and Mt Vyšný Licierov závrat, 49.20406°N, 19.97480°E, alt. 1885 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 9.08.2014 (POZNB2436).

ATMOS Gd-68: S Poland, Western Tatra Mts, MGRS 34UDV0952, N slope of Mt Rakoń, 49.21669°N, 19.75843°E, 49.21632°N, 19.75860°E, alt. 1850 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 12.07.2017 (POZNB 2486, 2487); Western Tatra Mts, MGRS 34UDV1151, NW slope of Mt Łopata, 49.20674°N, 19.78003°E, alt. 1877 a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 12.07.2017 (POZNB 2488); Western Tatra Mts, MGRS 34UDV1151, S from Mt Czerwony Wierch, 49.21062°N, 19.78097°E, 49.21031°N, 19.78119°E, alt. 1773 m, 1789 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 12.07.2017 (POZNB 2489, 2491); Western Tatra Mts, MGRS 34UDV1351, NE slope below Mt Kończysty Wierch, 49.20799°N, 19.81015°E, alt. 1850 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 3.09.2016 (POZNB 2193); ATMOS Gd-69: S Poland, Western Tatra Mts, MGRS 34UDV1750, Dolinczański Grzbiet ridge, NW slopes coming down to Dolinka valley (Dolinka valley coming down from Hlińska Przełęcz pass), 49.20394°N, 19.86626°E, alt. 1755 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 28.08.2016 (POZNB 2099); MGRS 34UDV1951, below Smreczyńska Przełęcz pass, NW slope, 49.21027°N, 19.88907°E, alt. 1775 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 27.08.2016 (POZNB 2092); 34UDV1951,

Zadni Smreczyński Grzbiet ridge, 49.21211°N, 19.89656°E, alt. 1867 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 15.10.2017 (POZNB 2485); ATMOS Ge-50: S Poland, High Tatra Mts, MGRS 34UDV3054, Koszysta ridge, SW from Mt Mała Koszysta, 49.24340°N, 20.05154°E, alt. 2020 m a.s.l., 49.24291°N, 20.05058°E, alt. 2035 m a.s.l., *Polytrichum-Sphagnum* hummock, leg., det. P. Górski, 30.07.2016 (POZNB 2073, 2306, 2307, 2319).

In the entire area of the Tatra Mts, 95 localities of *Schljakovia kunzeana* have been recorded, within an altitude range of 965–2375 m a.s.l. (GÓRSKI & VÁŇA 2014 and literature cited, GÓRSKI 2016). This report presents another 23 localities for this plant in this massive (total 118 known from the Tatra Mts). It is worth noting that during the 1950s, this species was considered very rare in the Tatra Mts, having three records only (SZWEYKOWSKI 1956). At present, this liverwort is not endangered or rare in these mountains. It grows mostly in the alpine belt, in *Polytrichum-Sphagnum* hummocks (SZWEYKOWSKI & BUCZKOWSKA 2000, CYKOWSKA 2011). One of the new localities presented in this study, from the Slovakian High Tatra Mts (Tichá Dolina Valley, alt. 1096 m a.s.l.), is one of the lowest in this massive. *Schljakovia kunzeana* has been recorded in a lower place only in the Polana Molkówka glade (965 m a.s.l., Polish Western Tatra Mts, LIL- IENFELDÓWNA 1914).

11. *Sciuro-hypnum reflexum* (Starke) Ignatov & Hut-tunen

Authors: E. FUDALI, L. ŻOŁNIERZ

ATMOS Ec-40: SW Poland, Silesian Lowland, Wrocław Valley, urban forests situated in NE suburbs of Wrocław, within its administrative borders (Las Zakrzowski), 51.179674°N, 17.143132°E, bark of *Quercus robur* at height 1.2 m above the ground in humid oak-hornbeam forest, leg., det. E. Fudali, L. Żołnierz, 18.10.2015 (KRAM).

Sciuro-hypnum reflexum shows in Poland a visible concentration of localities in mountain regions, where it is classified as common or frequent (STEBEL 2006b, FUDALI 2013), and occurs on various types of substratum: rocks, stones, bark of living trees, decaying logs and, sometimes, ground. In lowland areas its localities seem to be dispersed, and species occurrence is often limited to the bark of living deciduous trees (WILCZYŃSKA & KOŁA 1974–1975a, FUDALI 1996, SANDERSKA et al. 2003, FUDALI & WOLSKI 2015) or decayed wood (STEBEL 1997a). In northern Poland it was also recorded on erratic stones and boulders (RUSIŃSKA 1981). In the past (19th century), the species was not reported from the Wrocław area (MILDE 1869), and the only station from there known so far, situated on boulders in the Botanical Garden of Wrocław University (BERDOWSKI 1988), has artificial origin.

12. *Sphagnum riparium* Angstr.

Author: R. ŠOLTÉS

SLOVAKIA: High Tatra Mts, MGRS 34UDV2849, Temnosmrečínová dolina valley, 49.193056°N, 20.023056°E, alt. 1600 m a.s.l., community with *Scapania undulata*, leg. R. Šoltés, 22.09.1993, det. J. Váňa (stored in the herbarium of the Tatra National Park Múzeum in Tatranská Lomnica – TNP); MGRS 34UDV4742, bog and fen Poš near Dolný Smokovec Settlement, 49.136730°N, 20.277007°E, alt. 800 m a.s.l., leg. R. Šoltés, 3.10.1986, det. Z. Pilous (TNP); Podtatranská brázda Furrow, MGRS 34UDV3958, spruce bog Bor near Podspády, 49.276423°N, 20.162723°E, alt. 950 m a.s.l., leg., det. R. Šoltés, 24.08.1995 (TNP); Oravské Beskydy Highlands, bog Surdíky, 49.441850°N, 19.632833°E, alt. 610 m a.s.l., leg. D. Pukajová, 6.11.1998, det. R. Šoltés (TNP); Oravské Beskydy Highlands, spruce bog Slaná voda, below the cottage Slaná Voda, 49.521667°N, 19.478611°E, alt. 780 m a.s.l., leg., det. R. Šoltés, 20.09.1999 (TNP); Liptov Basin, bog Uhoľníky near Sučany Settlement, 49.122333°N, 18.999667°E, alt. 455 m a.s.l., leg. M. Galváneš, 14.07.2002, det. R. Šoltés (TNP); Poľana, Mt Poľana, grass-herb riverine system on the bank of the Slatinský potok Brook, 48.583611°N, 19.255000°E, alt. 360 m a.s.l., leg. N. Rajtárová, 15.06.2003, det. R. Šoltés (TNP).

13. *Tomentypnum nitens* (Hedw.) Loeske

Author: P. PAWLIKOWSKI

ATMOS Af-86: NE Poland, Masurian Lake District, Warmia-Masuria Province, Gołdap County, Dubeninki commune, Romincka Forest, 1.5 km NE of the Błędziszki and Błakały villages, 54.32099°N, 22.64698°E, quaking mire adjacent to the vanishing small lake, sedge-moss fen vegetation, scarce clumps among *Sphagnum* species (including calcitolerant *S. teres*, *S. warnstorffii* and *S. contortum*), along with *Carex limosa*, *C. lasiocarpa* and *C. chordorrhiza*, not. P. Pawlikowski, 27.09.2007, leg., det. P. Pawlikowski, 4.12.2017 (WA).

Tomentypnum nitens is considered vulnerable in Poland (category V, ŻARNOWIEC et al. 2004) but remains relatively common in minerotrophic fens in particular regions – some lakeland areas of northern and north-western Poland, the Biebrza area, uplands of southern Poland and the Carpathians (OCHYRA et al. 1988a). In the Warmia and Masuria Province, its distribution is patchy, and recent published records are rather limited (ŁACHACZ & OLESIŃSKI 2000, ŁACHACZ & PISAREK 2002, 2007, BLOCH-ORŁOWSKA & PISAREK 2005, HOŁDYŃSKI & KRUPA 2009, PAWLIKOWSKI & JARZOMBKOWSKI 2010, PAWLIKOWSKI 2017b), although the species seems more numerous in the eastern part of the region (BLOCH et al. 1979). It should be pointed out that many existing localities remain unpublished

(M. Szczepański unpubl., W. Pisarek unpubl. from the years 1995–2017). From the Puszcza Romincka Forest, the species was recorded by STEFFEN (1922, 1931) and KOPPE and KOPPE (1931), but only the record by the former author can be attributed to the present Polish part of the forest complex, from the area of the present “Struga Żytkiejmska” nature reserve, where the species has recently been confirmed by PAWLIKOWSKI and JARZOMBKOWSKI (2010).

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