



NEW DISTRIBUTIONAL DATA ON BRYOPHYTES OF POLAND, 15

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ABSTRACT. This work presents a list of new localities for *Calypogeia fissa*, *Cephaloziella elachista*, *Fuscocephaloziopsis catenulata*, *F. macrostachya*, *Isopaches bicrenatus*, *Odontoschisma denudatum*, *O. fluitans*, and *O. sphagni* in Poland.

1. *Calypogeia fissa* (L.) Raddi

Author: P. GÓRSKI

ATMOS Cb-22: NW Poland, West Pomerania, Drawa National Park (Drawieński Park Narodowy), near NE shore of Jezioro Ostrowiec lake, Kłocie Ostrowieckie rich fen, 53.10389°N, 15.98341°E, 53.10343°N, 15.98335°E, 53.10394°N, 15.98316°E, on peat, growing with *Fuscocephaloziopsis connivens*, leg., det. P. Górski, 21.07.2016 (POZNB).

The localities of *Calypogeia fissa* are concentrated in the western part of Poland (SZWEYKOWSKI 2006). It is a relatively rare species (BUCZKOWSKA 2004) but not threatened in the country (KLAMA & GÓRSKI 2018). The liverwort seems to be more common than it would appear from the published data (SZWEYKOWSKI 1958, BUCZKOWSKA 2004, ROSADZIŃSKI & RUSIŃSKA 2010, GÓRSKI 2013). The first record of *C. fissa* in Drawa National Park was made by JASNOWSKA et al. (1986) but without detailed localization. New data published in this column confirm the occurrence of this liverwort in that area 30 years later.

2. *Cephaloziella elachista* (J.B. Jack ex Gottsche et Rabenh.) Schiffn.

Author: P. GÓRSKI

ATMOS Cb-22: NW Poland, West Pomerania, Drawa National Park, Torfowisko Okrągłe bog, ca 600 m east from NE shore of Jezioro Ostrowiec lake, 53.10017°N, 15.99104°E, growing with *Mylia anomala*, *Fuscocephaloziopsis connivens*, leg., det. P. Górski, 18.07.2016 (POZNB).

Cephaloziella elachista is known to exist in central and northern Poland (SZWEYKOWSKI 2006). It seems to be a rare, but not threatened (KLAMA & GÓRSKI 2018), poor fen species. However, in West Pomerania, it probably occurs more frequently than the published data indicate and is overlooked in the field. The presented new locality was observed in Drawa National Park. Until now, *Cephaloziella elachista* has not been found there. Previously, bryological research in this protected area was conducted by JASNOWSKA et al. (1986) and KOOPMAN (2013).

3. *Fuscocephaloziopsis catenulata* (Huebener) Váňa & L. Söderstr. (= *Cephalozia catenulata* (Huebener) Lindb.)

Author: P. GÓRSKI

ATMOS Af-86: NE Poland, Litewskie Lakeland (Pojezierze Litewskie), Puszcza Romincka Forest (Puszcza Romincka), 'Struga Żytkiejmska' nature reserve, 54.35055°N, 22.62586°E, 54.35100°N, 22.62694°E, 54.35114°N, 22.62632°E, decaying spruce log, *Sphagno girgensohnii-Piceetum*, leg., det. P. Górski, 17.09.2016 (POZNB).

Fuscocephaloziopsis catenulata is an epixylic species found in near-natural forests with the characteristics of a virgin forest (CIEŚLIŃSKI et al. 1996). Based on studies in the Puszcza Białowieska primeval forest, this plant was classified as a so-called primeval forest relict (KLAMA in CIEŚLIŃSKI et al. 1996, KLAMA 2002b). To date, localities of *F. catenulata* in Poland have been reported in almost all mountain massifs and in the northern (primarily north-eastern) part of the country (SZWEYKOWSKI 2006, GÓRSKI & ROMAŃSKI 2016). On a whole-country scale, *F. catenulata* is a species that is threatened with extinction (category V; KLAMA & GÓRSKI 2018). The new presented locality is in Puszcza Romincka Forest, where this species was reported recently (FOJCIK et al. 2017). New localities of *F. catenulata*, reported after 2000, are also known in north-eastern Poland (KLAMA 2002a, b, GÓRSKI et al. 2014, GÓRSKI & ROMAŃSKI 2016).

4. *Fuscocephaloziopsis macrostachya* (Kaal.) Váňa et L. Söderstr. (= *Cephalozia macrostachya* Kaal.)

Authors: K. KIASZEWICZ, P. GÓRSKI

ATMOS Bb-03: NW Poland, West Pomerania (Pomorze Zachodnie), Białogardzka Plain (Równina Białogardzka), 1.3 km north of Warnino village, 'Warnie Bagno' nature reserve, a big Baltic type raised bog, 54.14081°N, 15.94594°E, on peat post excavation pits, in *Sphagno tenelli-Rhynosporetum albae*, leg., det. K. Kiaszewicz, 6.07.2018, conf. P. Górski (POZNB).

The distribution centre of *Fuscocephaloziopsis macrostachya* in Poland is situated in the northern part of the country (SZWEYKOWSKI 2006). According to Szweykowski (l.c.), this species is actually more common than it would appear from the published data. This opinion confirms new localities documented in recent years in West Pomerania (Koszalin Coastland, GÓRSKI 2013, GÓRSKI et al. 2015a; Sławieńska Plain, GÓRSKI et al. 2016b; Wałcz Plain, GÓRSKI et al. 2015b) and Puszcza Romincka Forest (north-eastern Poland, GÓRSKI et al. 2016a). *Fuscocephaloziopsis macrostachya* is considered to be near threatened in Poland (category NT; KLAMA & GÓRSKI 2018).

5. *Isopaches bicrenatus* (Schmidel ex Hoffm.) H. Buch (= *Lophozia bicrenata* (Schmidel ex Hoffm.) Dumort.)

Author: P. GÓRSKI

ATMOS Cb-22: NW Poland, West Pomerania, Drawa National Park, south from Jezioro Piaseczno Duże lake, 53.11951°N, 16.00346°E, on mineral sandy soil near forest road in a young pine plantation, growing with *Cephaloziella divaricata*, leg., det. P. Górski, 20.07.2016 (POZNB).

Isopaches bicrenatus is a widespread lowland species that is not in danger of extinction in Poland (SZWEYKOWSKI & KOZLIKA 1980, KLAMA & GÓRSKI 2018). The presented new locality was noted in Drawa National Park. Until now, *I. bicrenatus* has not been found there (see JASNOWSKA et al. 1986, KOOPMAN 2013).

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

Author: P. GÓRSKI

ATMOS Cb-13: NW Poland, West Pomerania, Drawa National Park, Głodne Jezioro lakes, 53.19333°N, 16.07436°E, decaying pine log, growing with *Nowellia curvifolia*, *Lepidozia reptans* and *Lophocolea heterophylla*, leg., det. P. Górski, 20.07.2016 (POZNB).

Odontoschisma denudatum is the third (after *Cephaloziella elachista* and *Isopaches bicrenatus*) of the species that are new to the Drawa National Park presented in this column. The liverwort is relatively common only in the north-eastern part of Poland (SZWEYKOWSKI 2006). There are also known localities in the north-western and south-western parts of the country (SZWEYKOWSKI 1958, 2006, GÓRSKI 2010, 2013). On a whole-country scale, this liverwort is considered to be near threatened (category NT; KLAMA & GÓRSKI 2018).

7. *Odontoschisma fluitans* (Nees) L. Söderstr. et Váňa (= *Cladopodiella fluitans* (Nees) H. Buch)

Authors: K. KIASZEWICZ, P. GÓRSKI

ATMOS Bb-03: NW Poland, West Pomerania, Białogardzka Plain, 1.3 km north of Warnino village, 'Warnie Bagno' nature reserve, a big Baltic type raised bog, 54.14081°N, 15.94594°E, 54.14208°N, 15.94053°E, on peat post excavation pits, in *Sphagno tenelli-Rhynosporetum albae*, leg., det. K. Kiaszewicz, 6.07.2018, conf. P. Górski (POZNB); ATMOS Bb-74: NW Poland, West Pomerania, Pojezierze Drawskie (Drawskie Lakeland), ca 3 km southwest of Czaplina town, 'Brzozowe Bagno koło Czaplina' nature reserve, 53.5359972°N, 16.2050194°E, in *Caricetum limosae*, leg., det. K. Kiaszewicz, 27.07.2018, c. per., conf. P. Górski (POZNB).

The distribution characteristics of *Odontoschisma fluitans* in Poland were presented by KLAMA (1998). On a whole-country scale, this liverwort is considered to be near threatened (category NT; KLAMA & GÓRSKI 2018). Recent records of this species have been made in West Pomerania (GÓRSKI 2013, GÓRSKI et al. 2015a, b), the Lubuskie lakeland (GÓRSKI et al. 2015a), the Tatra Mountains (GÓRSKI et al. 2015a) and Puszcza Romincka Forest (GÓRSKI et al. 2016a).

8. *Odontoschisma sphagni* (Dicks.) Dumort.

Authors: K. KIASZEWICZ, P. GÓRSKI

ATMOS Bb-03: NW Poland, West Pomerania, Białogardzka Plain, 1.3 km north of Warnino village, 'Warnie Bagno' nature reserve, a big Baltic type raised bog, 54.13956°N, 15.92886°E, 54.14198°N, 15.93041°E, 54.14314°N, 15.92929°E, on peat, on fragments of natural peat cupola, in *Erico-Sphagnetum magellanicum*, leg., det. K. Kiaszewicz, 6.07.2018, conf. P. Górski (POZNB).

Most of the polish localities of *Odontoschisma sphagni* are situated in the north-western part of the country (West Pomerania). In this area, the liverwort seems to occur more frequently than it would appear from the published data. Single records of this plant have also been reported in north-eastern and southern Poland (SZWEYKOWSKI 2006). On a whole-country scale, *O. sphagni* is a species that is threatened with extinction (category V; KLAMA & GÓRSKI 2018). Since 2000, the liverwort has been recorded by ROSADZIŃSKI & RUSIŃSKA (2010), GÓRSKI (2013) and GÓRSKI et al. (2016b).

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REFERENCES

- BUCZKOWSKA K. (2004): The genus *Calypogeia* Raddi (Jungermanniales, Hepaticae) in Poland, biometrical analysis of morphological and anatomical variation. *Nova Hedwigia* 78, 1–2: 121–146.
- CIEŚLIŃSKI S., CZYŻEWSKA K., FALIŃSKI J.B., KLAMA H., MUŁENKO W., ŻARNOWIEC J. (1996): Relicts of the primeval (virgin) forest. Relict phenomena. In: J.B. Faliński, W. Mułenko (eds). *Cryptogamous plants in the forest communities of Białowieża National Park. Functional groups analysis and general synthesis (Project Crypto 3)*. *Phytocoenosis* 8 (N. S.), *Archivum Geobotanicum* 6: 197–216.
- FOJCIK B., ZUBEL R., WIERZCHOWSKA S., ROSADZIŃSKI S., STANIASZEK-KIK M., RUSIŃSKA A., SZCZEPAŃSKI M., VONČINA G., WOLSKI G., CIURZYCKI W., GÓRSKI P., PIWOWARSKI B., PAWLIKOWSKI P. (2017): Materiały do brioflory rezerwatu przyrody Boczki (Puszcza Romincka). *Steciana* 21, 4: 147–158.
- GÓRSKI P. (2010): A contribution to the liverwort flora of the Drawsko Lake district (Western Pomerania, Poland). *Roczniki Akademii Rolniczej w Poznaniu* 389, *Botanika-Steciana* 14: 19–26.
- GÓRSKI P. (2013): Wątrobowce (*Marchantiophyta*) Leśnego Kompleksu Promocyjnego „Lasy Środkowopomorskie” (Pomorze Zachodnie). PGL Lasy Państwowe Nadleśnictwo Karnieszewice, Wydawnictwo Uniwersytetu Przyrodniczego w Poznaniu, Sianów-Poznań.
- GÓRSKI P., KAPUSTYŃSKI T., KOZUB Ł., DEMBICZ I., ROSADZIŃSKI S., STANIASZEK-KIK M., RUSIŃSKA A., SMOCZYK M. (2015a): New distributional data on bryophytes of Poland and Slovakia, 4. *Steciana* 19(4): 221–230.
- GÓRSKI P., PAWLIKOWSKI P., STANIASZEK-KIK M., ROSADZIŃSKI S., STEBEL A., RUSIŃSKA A., ZUBEL R., WILHELM M., FUDALI E., CYKOWSKA-MARZENCKA B., PRZEWOŹNIK L. (2014): New distributional data on bryophytes of Poland, 1. *Steciana* 18, 2: 77–87.
- GÓRSKI P., ROMAŃSKI M. (2016): *Fuscocephaloziopsis catenulata* (Huebener) Váňa et L. Söderstr. – a liverwort new to Wigry National Park (north-eastern Poland). *Steciana* 20, 1: 45–52.
- GÓRSKI P., RUSIŃSKA A., SMOCZYK M., DEMBICZ I., WIERZCHOWSKA S., KOZUB Ł., ROMAŃSKI M., FUDALI E., PODLASKA M., WIADERNY A. (2016a): New distributional data on bryophytes of Poland and Slovakia, 5. *Steciana* 20(1): 33–44.
- GÓRSKI P., SMOCZYK M., PAWLIKOWSKI P., VONČINA G., STEBEL A., PACIOREK T., STANIASZEK-KIK M., ROMAŃSKI M., WIADERNY A., GĄBKA M., WIERZCHOWSKA S. (2015b): New distributional data on bryophytes of Poland, 2. *Steciana* 19(2): 55–65.
- GÓRSKI P., VONČINA G., SMOCZYK M., KLAMA H., ŠOLTÉS R., WILHELM M., RUTKOWSKA M. (2016b): New distributional data on bryophytes of Poland and Slovakia, 8. *Steciana* 20(4): 191–200.
- JASNOWSKA J., JASNOWSKI M., GRINN U., FRIEDRICH S. (1986): Flora projektowanego Drawieńskiego Parku Narodowego i jej osobliwości. In: L. Agapow, M. Jasnowski (eds). *Przyroda projektowanego Drawieńskiego Parku Narodowego*. Gorzowskie Towarzystwo Naukowe, Gorzów Wielkopolski: 25–67.
- KLAMA H. (1998): Nowe stanowisko *Cladopodiella fluitans* (Hepaticae, Cephaloziaceae) na Wyżynie Śląsko-Krakowskiej. *Fragmenta Floristica et Geobotanica Polonica* 5: 308–310.
- KLAMA H. (2002a): Distribution patterns of liverworts (*Marchantiopsida*) in natural forest communities

- (Białowieża Primeval Forest, NE Poland). University of Bielsko-Biała, Bielsko-Biała.
- KLAMA H. (2002b): Relikty puszczańskie we florze wątrobowców zbiorowisk leśnych Puszczy Białowieskiej. *Zeszyty Naukowe ATH – Inżynieria Włókiennicza i Ochrona Środowiska* 7, 3: 244–260.
- KLAMA H., GÓRSKI P. (2018): Red List of Liverworts and Hornworts of Poland (4th edition, 2018). *Cryptogamie, Bryologie* 39, 4: 415–441.
- KOOPMAN J. (2013): Mszaki. In: *Drawieński Park Narodowy. Operat szaty roślinnej*. Vol. 1. Typescript. Dyrekcja Drawieńskiego Parku Narodowego, Świebodzin, Warszawa: 31–72.
- ROSADZIŃSKI S., RUSIŃSKA A. (2010): Rzadkie i zagrożone wątrobowce polskiej części Dolnych Łużyc. In: A. Szczepkowski, A. Obidziński (eds). *Streszczenia referatów i plakatów LV Zjazdu PTB. Planeta in vivo, in vitro et in silico*. Warszawa, 6–12 września 2010, Warszawa: 18; *Acta Societatis Botanicorum Poloniae* 79, suppl. 1: 24.
- SZWEYKOWSKI J. (1958): *Prodromus florum hepaticarum Poloniae*. *Prace Komisji Biologicznej Poznańskiego Towarzystwa Przyjaciół Nauk* 19: 1–600.
- SZWEYKOWSKI J. (2006): An annotated checklist of Polish liverworts and hornworts. – *Krytyczna lista wątrobowców i glewików Polski*. Biodiversity of Poland. Vol. 4. W. Szafer Institute of Botany, Polish Academy of Sciences, Kraków.
- SZWEYKOWSKI J., KOZŁICKA M. (1980): H. 97. *Isopaches bicrenatus* (Schmiedel) Buch. In: J. Szweykowski, T. Wojterski (eds). *Atlas of geographical distribution of spore plants in Poland*. Vol. 10. Serie IV. Liverworts (Hepaticae). Polska Akademia Nauk, Poznańskie Towarzystwo Przyjaciół Nauk, Poznań.
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