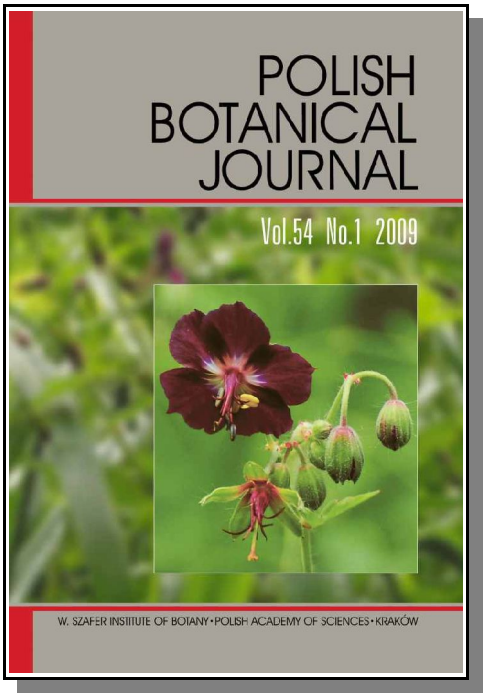

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ABSTRACTS

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OVERVIEW OF *APHANOLEJEUNEA* (JUNGERMANNIOPSIDA) AFTER 25 YEARS

TAMAS PÓCS & ANDREA BERNECKER

Abstract. The last worldwide account of *Aphanolejeunea*, done 25 years ago, recognized 41 valid species. Since then the number of accepted taxa has increased by 10 new species, described mostly by us, and 4 species, as new combinations, were transferred from *Cololejeunea* to *Aphanolejeunea*. It also turned out that some other names, mostly synonyms, have been overlooked in the intervening years. Recent molecular evidence has shown that at the generic level *Aphanolejeunea* cannot be separated from *Cololejeunea*. Here, all valid *Aphanolejeunea* taxa are merged with (or returned to) *Cololejeunea*. Forty-three *Cololejeunea* names are established for the previously known 64 *Aphanolejeunea* binomials, 23 new combinations and 4 new names (these latter to avoid homonymy) are made, and 22 new synonyms are proposed. The continental distributions of all species are given, based on our recent knowledge.

Key words: *Aphanolejeunea*, *Cololejeunea*, new combinations, synonymy

Tamás Pócs, Botany Department, Eszterházy College, Eger, Pf. 43, H-3301, Hungary; e-mail: colura@chello.hu
Andrea Bernecker, Escuela de Biología, Universidad de Costa Rica, San Pedro, San José 2060, Costa Rica

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NUPELA MATRIOSCHKA SP. NOV., *NUPELA THURSTONENSIS* COMB. NOV. AND *NUPELA NEOGRACILLIMA* COMB. & NOM. NOV. (BACILLARIOPHYCEAE): CRITICAL ANALYSIS OF THEIR MORPHOLOGY

MAXIM KULIKOVSKIY, HORST LANGE-BERTALOT & ANDRZEJ WITKOWSKI

Abstract. Light and electron microscopic observations of the diatom flora from the Polistovo-Lovatsky *Sphagnum* bogs (Russia, Novgorod region) revealed the occurrence of an unknown species comparable to *Navicula thurstonensis* Kaczmarska, a taxon described from Hawaii. *Nupela matrioschka* is described here as a species new to science, based on its valve morphology typical for the genus *Nupela* Vyverman & Compère. The major features conforming to *Nupela* are the ultrastructure of the raphe system and areolae. We propose formal transfer of *Navicula thurstonensis* to *Nupela* as *N. thurstonensis* (Kaczmarska) Kulikovskiy, Lange-Bertalot & Witkowski *comb. nov*. Both species are compared to similar taxa belonging to *Nupela* described from temperate climate zones. Also proposed is transfer of *Achnanthes gracillima* Hustedt to *Nupela*. Since the epithet *gracillima* is not available due to the priority of *Nupela gracillima* (Hustedt) Lange-Bertalot 1993, we propose as a necessary new name *Nupela neogracillima* (Hustedt) Kulikowskiy & Lange-Bertalot *comb. nov., nom. nov*.

Key words: taxonomy, diatom morphology, *Nupela*, *Navicula*, *Achnanthes*, new species, new combinations, Polistovo-Lovatsky *Sphagnum* bogs (Russia), Hawaii

Maxim Kulikovskiy, Department of Algology, Papanin's Institute for Biology of Inland Waters, Russian Academy of Sciences, 152742 Yaroslavl, Nekouz, Borok, Russia; e-mail: max-kulikovsky@ yandex.ru
Horst Lange-Bertalot, Faculty of Biology, Institute of Ecology, Phylogeny, Diversity, J. W. Goethe-University and Forschungsinstitut Senckenberg, Senckenberganlage 31-33, 60054 Frankfurt am Main, Germany
Andrzej Witkowski, Department of Palaeoceanology, University of Szczecin, Mickiewicza 18, PL-70-383 Szczecin, Poland

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SPORISORIUM THEMEDAE, NEW TO MAURITIUS, AND *TILLETIA MAURITIANA*, NEW TO MADAGASCAR

MARCIN PIĄTEK

Abstract. Two smut fungi from Indian Ocean islands are described, illustrated and discussed. *Sporisorium themedae* (Duke) Vánky on *Themeda quadrivalvis* (L.) Kuntze is reported for the first time from Mauritius, and from the Madagascan subkingdom of the Paleotropics as a whole. *Tilletia mauritiana* Vánky on *Brachiaria umbellata* (Trin.) Clayton is new to Madagascar. This smut was hitherto known only from the type locality in Mauritius, and the present finding extends its geographic distribution *ca* 900 km westwards.

Key words: Indian Ocean islands, Mascarenes, Madagascan subkingdom, Paleotropics, smut fungi, *Sporisorium*, *Tilletia*

Marcin Piątek, Department of Mycology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-521 Kraków, Poland; e-mail: m.piatek@botany.pl

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EUPHRASIA EXARISTATA (SCROPHULARIACEAE), A WESTERN CARPATHIAN ENDEMIC SPECIES NEW TO THE FLORA OF POLAND

JERZY STASZKIEWICZ

Abstract. *Euphrasia exaristata* Smejkal, identified and described by Smejkal in 1963, was known only from the Slovakian part of the Tatra Mountains. This paper reports and describes a locality from the Polish Tatra Mountains, new for the Polish Carpathians and for Poland as a whole.

Key words: *Euphrasia exaristata*, morphology, distribution, habitats, variability

Jerzy Staszkiewicz, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Kraków, Poland

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LECANORA SEMIPALLIDA (LICHENIZED ASCOMYCOTA) IN POLAND

Lucyna Śliwa

Abstract. This paper discusses the status of *Lecanora semipallida* H. Magn. in Poland, with special emphasis to its known distribution. The species was first reported from the area of Poland in the 19th century under the name '*L. flotoviana* Spr.' and was neglected for over a century. Based on current study it is found to be a common, widespread species occurring on calcareous rocks and concrete in all kinds of environment; *L. flotoviana* Spreng. was not confirmed as occurring in Poland.

Key words: lichens, *Lecanora dispersa* group, *Lecanora flotoviana*, new records, geographical distribution

Lucyna Śliwa, Laboratory of Lichenology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Kraków, Poland; l.sliwa@botany.pl

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METZGERIA VIOLACEA (MARCHANTIOPSIDA, METZGERIACEAE) IN THE POLISH CARPATHIANS

Lucjan Armata

Abstract. *Metzgeria violacea* (Ach.) Dumort. is one of the rarest and most threatened epiphytes in many European countries. Its Carpathian localities are situated at the southeastern distributional limit of the European range. Until recently this liverwort was regarded as extinct in the Polish Carpathians. Here a newly discovered locality is presented and the ecology, distribution and conservation status of the species are discussed.

Key words: Marchantiophyta, *Metzgeria violacea*, threatened liverwort, distribution, Carpathians, Poland

Lucjan Armata, Department of Botany and Mycology, Institute of Biology, Maria Curie-Skłodowska University, Akademicka 19, PL-20-033 Lublin, Poland; e-mail: lucjan.armata@gmail.com

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CRITICAL REVIEW OF *RUSSULA* SPECIES (AGARICOMYCETES) KNOWN FROM TATRA NATIONAL PARK (POLAND AND SLOVAKIA)

Anna Ronikier & Slavomír Adamčík

Abstract. All available published data on the occurrence of *Russula* species in Tatra National Park are summarized. Excluding the doubtful data, which are discussed herein, 66 species are recognized in Tatra National Park. Within each of the three main geomorphological units of the range, 42 species were recorded in the West Tatras, 18 in the High Tatras, and 16 in the Belanské Tatry Mts; additionally, 35 species were found in areas outside the Tatra Mts but within the National Park borders. Montane forests are the richest in *Russula* species (58); 13 species were found in the subalpine and 8 in the alpine belt. The number of reported species is highest in the Polish part of the West Tatra Mts; almost no data are available from the Slovak High Tatras. The smallest unit, the Belanské Tatry Mts, is the Tatra region best studied for alpine species. In comparison to other regions in Poland and Slovakia, Tatra National Park seems to be relatively well investigated, but in view of the richness of habitats in the Tatra Mts, we believe the actual diversity of *Russula* species in the region is higher than presently known.

Key words: *Russula*, fungi, biodiversity, Slovakia, Poland, mountains, altitudinal zones

Anna Ronikier, Department of Mycology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Kraków, Poland; e-mail: a.ronikier@botany.pl
Slavomír Adamčík, Institute of Botany, Slovak Academy of Sciences, Dúbravská cesta 14, SK-845 23 Bratislava, Slovakia; e-mail: slavomir.adamcik@savba.sk

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CONTRIBUTION TO BIODIVERSITY ASSESSMENT OF EUROPEAN PRIMEVAL FORESTS: NEW RECORDS OF RARE FUNGI IN THE BIAŁOWIEŻA FOREST

Dariusz Karasiński, Anna Kujawa, Marcin Piątek,
Anna Ronikier & Marek Wołkowycki

Abstract. The paper gives an annotated list of 40 species of macrofungi found in the Białowieża Forest recently. Two genera (*Mycoaciella* J. Erikss. & Ryvarden and *Sphaerobasidium* Oberw.) and nine species (*Alnicola amarescens* (Quél.) R. Heim & Romagn., *Ceriporiopsis rivulosa* (Berk. & M. A. Curtis) Gilb. & Ryvarden, *Henningsomyces puber* (Romell *ex* W. B. Cooke) D. A. Reid, *Mycena silvae-nigrae* Maas Geest. & Schwöbel, *Mycoaciella bispora* (Stalpers) J. Erikss. & Ryvarden, *Psathyrella maculata* (C. S. Parker) A. H. Sm., *Sphaerobasidium minutum* (J. Erikss.) Oberw. *ex* Jülich, *Steccherinum tenuispinum* Spirin, Zmitr. & Malysheva, and *Xenasma pruinosum* (Pat.) Donk) are reported for the first time from Poland. A further 23 species are new for the Białowieża Forest: *Antrodia mellita* Niemelä & Penttilä, *Antrodiella citrinella* Niemelä & Ryvarden, *Asterodon ferruginosus* Pat., *Athelia decipiens* (Höhn. & Litsch.) J. Erikss., *Byssocorticium atrovirens* (Fr.) Bondartsev & Singer *ex* Singer, *Conferticium ochraceum* (Fr.) Hallenb., *Coniophora olivacea* (Fr.) P. Karst., *Crepidotus crocophyllus* (Berk.) Sacc., *C. lundellii* Pilát, *Dacryomyces tortus* (Willd.) Fr., *Exidia villosa* Neuhoff, *Hyphodontia pruni* (Lasch) Svrček, *Kavinia alboviridis* (Morgan) Gilb. & Budington, *Lentinus suavissimus* Fr., *Mycoacia uda* (Fr.) Donk, *Peniophora limitata* (Chaillet *ex* Fr.) Cooke, *Pezicula acericola* (Peck) Peck *ex* Sacc. & Berl., *Piloderma byssinum* (P. Karst.) Jülich,

Pseudomerulius aureus (Fr.) Jülich, *Rectipilus fasciculatus* (Pers.) Agerer, *Sebacina incrustans* (Pers.) Tul. & C. Tul., *Sistotrema raduloides* (P. Karst.) Donk and *Trechispora hymenocystis* (Berk. & Broome) K. H. Larss. The species new for Poland are described and their micromorphological characters are illustrated.

Key words: Ascomycota, Basidiomycota, Białowieża Forest, diversity, distribution, Poland

Dariusz Karasiński, Marcin Piątek & Anna Ronikier, Department of Mycology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Kraków, Poland; e-mail: d.karasinski@botany.pl, m.piatek@botany.pl, a.ronikier@botany.pl
Anna Kujawa, Institute for Agricultural and Forest Environment, Polish Academy of Sciences, Field Station in Turew, Turew, Szkolna 4, PL-64-000 Kościan, Poland; e-mail: ankujawa@man.poznan.pl
Marek Wołkowycki, Sacharewo Osada 1, PL-17-200 Hajnówka, Poland; e-mail: wolkm@poczta.onet.pl

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NEW INLAND LOCALITIES OF A RARE GASTEROID BASIDIOMYCETE, *SCLERODERMA SEPTENTRIONALE*, IN NATURAL AND ANTHROPOGENIC HABITATS IN CENTRAL EUROPE

Piotr Mleczko, Stefan Gawroński & Paweł Kapusta

Abstract. *Scleroderma septentrionale* Jeppson was first discovered in Central Europe in the Puszcza Kampinoska primeval forest (Central Poland) over 40 years ago. We found two new inland localities of this rare species in southern Poland: on natural inland sand dunes of post-glacial origin (Pustynia Błędowska) and at an anthropogenic site on sandy soil polluted by heavy metals (Olkusz, in the vicinity of the Bolesław Mine and Smelter). The basidiocarps occurred under willow and birch or pine and birch. The new localities are approximately midway between two previously known inland stands in Central Europe (Puszcza Kampinoska forest and the Záhorie region in Slovakia).

Key words: *Scleroderma*, Boletales, fungi, sand dunes, industrial areas, ecology, distribution, Poland, Europe

Piotr Mleczko & Stefan Gawroński, Institute of Botany, Jagiellonian University, Lubicz 46, PL-31-512 Kraków, Poland; e-mail: ubmleczk@cyf-kr.edu.pl
Paweł Kapusta, Department of Ecology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Kraków, Poland; e-mail: p.kapusta@botany.pl

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HEAVY METAL VEGETATION IN THE OLKUSZ REGION (SOUTHERN POLAND) – PRELIMINARY STUDIES

Krystyna Grodzińska & Grażyna Szarek-Łukaszewska

Abstract. Grassland communities of areas with high levels of zinc and lead in the Olkusz region (southern Poland) were studied. They developed spontaneously on mine waste deposited at the beginning of the 20th century. Twenty phytosociological relevés in two areas are presented, along with pH and the zinc and lead concentrations in the upper soil layer. The soils were shallow, pH-neutral or slightly alkaline, and with very high heavy metal content (Zn 3.3–10.4%, Pb 0.32–1.66%). The grasslands were generally short and rather dense, and floristically similar to the *Armerietum halleri* Libbert 1930 association described by many authors from metalliferous areas of Germany; they differed from German ones by the presence of *Biscutella laevigata* and by the constant and often abundant occurrence of some vascular plants and lichen species (e.g., *Rumex thyrsiflorus*, *Cardaminopsis arenosa*, *Diploschistes muscorum*, *Verrucaria muralis*). Difficulties in comparing phytosociological materials from various areas are discussed. The paper points to the need to conserve grassland islands in the monotonous, seriously degraded landscape of the area.

Keywords: heavy metal plant communities, grasslands, phytosociology, *Armerietum halleri, Violetea calaminariae*

Krystyna Grodzińska & Grażyna Szarek-Łukaszewska, Department of Ecology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Kraków, Poland; e-mail: K.Grodzinska@botany.pl

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STRUCTURE AND DEVELOPMENT OF SECONDARY THICKENING MERISTEM IN *MIRABILIS JALAPA* (NYCTAGINACEAE)

Kishore S. Rajput, Vidya S. Patil & Kailash K. Kapadne

Abstract. The structure and development of vascular cambium and its derivatives were studied in normal and experimentally injured stems of *Mirabilis jalapa* L. (Nyctaginaceae). In normal stems the cambium was semi-storied and composed exclusively of fusiform cambial cells with no rays. Several collateral vascular bundles were joined by interfascicular cambium and formed a complete ring of activity. After a definite period a small segment of cambium that produced conducting elements of xylem and phloem ceased to divide. A new segment of cambium was developed from the parenchyma cells outside the phloem of previous cambium. This newly formed cambial segment replaced the nonfunctional segment by joining with other functional segments to form a continuous ring. Each successive segment of cambium followed a similar pattern of development. Functionally the cambium was bidirectional, producing both xylem and phloem on opposite sides, but the rate of cell division towards phloem was very slow, thus making the cambium appear functionally unidirectional. Functional sieve elements were observed in all the phloem islands; nonfunctional sieve elements showed heavy accumulation of callose. Experimentally we tried to induce the formation of rays by injuring the cambium, but instead of forming wound meristem it formed cork cambium around the wounds. The meristematic segments present between the xylem and phloem of medullary bundles also remained active even at the senescent stage.

Key words: cambium, rayless xylem, medullary bundles, *Mirabilis*

Kishore S. Rajput, Vidya S. Patil & Kailash K. Kapadne, Department of Botany, Faculty of Science, The M. S. University of Baroda, Vadodara-390002, Gujarat, India; e-mail: ks.rajput15@yahoo.com

Botanical notes

LICHENS RECORDED ON IRON AND GLASS IN NE POLAND

Maria Kossowska & Michał Węgrzyn

Maria Kossowska, Department of Biodiversity and Plant Cover Protection, Institute of Plant Biology, University of Wrocław, Kanonia 6/8, PL-50-328 Wrocław, Poland; e-mail: kossmar@biol.uni.wroc.pl
Michał Węgrzyn, Zdzisław Czeppe Department of Polar Research and Documentation, Institute of Botany, Jagiellonian University, Kopernika 27, PL-31-501 Kraków, Poland; e-mail: michal.wegrzyn@uj.edu.pl

JAMESIELLA ANASTOMOSANS, A LICHEN SPECIES NEW TO POLAND

Anna Łubek

Anna Łubek, Institute of Biology, J. Kochanowski University, Świętokrzyska 15, PL-25-406 Kielce, Poland; e-mail: anna.lubek@ujk.kielce.pl