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New names of *Typha* of Northern Eurasia (Typhaceae)

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ABSTRACT. The nomenclature of some fossil and extant homonyms of *Typha* (Typhaceae) is resolved. Fossil *Typha elongata* P.I. Dorofeev 1982, being an illegitimate later homonym of extant *Typha elongata* Pauquy 1834, is renamed *T. asiatica* nom. nov. *Typha sibirica* Krasnova 1987 (extant) is replaced by a new name, *T. krasnovae* nom. nov., on account of the earlier homonym, *T. sibirica* P.I. Dorofeev 1982 (fossil). *T. transdnestrovica* nom. nov. is proposed to replace the later homonym *T. elliptica* Negru 1976 (fossil) non *T. elliptica* Gmelin 1808 (extant). Fossil seeds from the Lower Oligocene (Rupelian) of Bembridge (Isle of Wight, U.K.), previously attributed to the fossil-species *T. latissima*, based on leaves, are described as a new fossil-species, *T. latissimisperma sp. nov*. *Typha latissima* is neotypified; *Typha angustior* is lectotypified for the first time.

KEYWORDS: botanical nomenclature, palaeocarpology, Cretaceous, Miocene, Oligocene, Europe, Western Siberia, Typhales.

The ongoing editorial work for the *International Fossil Plant Names Index* (IFPNI, 2014–onwards), a global registry of fossil plant names (Doweld 2015, 2016), has unraveled a few homonyms between extant and fossil species of the genus *Typha* Linnaeus (1753: 971) (Typhaceae). The emphasis of the current study has also been on the nomenclature of the fossil-species of *Typha*, which necessitates transfer of some of them to different genera, and establishment of new fossil-species and new lecto- or neotype designations.

These new fossil plant names were registered in a pilot registration version adopted at the XIX International Botanical Congress in Shenzhen in 2017 (Barkworth et al. 2016a, b, Turland et al. 2017a, b) in the International Fossil Plant Names Index (IFPNI 2014–onwards), with unique permanent registration barcodes (LSIDs, Life Science Identifiers).

Typha Linnaeus (1753: 971)

Typha asiatica Doweld, **nom. nov.**

IFPNI: DC8B1F65-4141-4AE2-A4AC-B9B34F52D99B.

Replaced name. *Typha elongata* Dorofeev, p. 17, pl. 2, fig. 27. 1982 non *Typha elongata* Pauquy, p. 423. 1834 nec *Typha elongata* (Dudley) Kronfeld, p. 176. 1889, nom. inval. (*pro syn.*) [≡ *Typha latifolia* var. *elongata* Dudley, p. 102. 1886].

Synonymy.

1963 *Typha elongata* Dorofeev, p. 178, pl. 1, figs 31–34, text-fig. 4, figs 6–10, nom. inval. (ICN, Art. 40.1).

Holotype. [fossil seeds] left bank of Ulu-Zhilanchik river, NW from Naush tomb, Dzhangel'dy district, Kostanaj region, Kazakhstan; Oligocene (specimen # 300-1, Komarov Botanical Institute, Russian Academy of Sciences, St.-Petersburg, Russian Federation).

Occurrence. Oligocene; Eurasia (Central Asia).

The nomenclature of extant *Typha elongata* is very confused. The earlier extant species name was proposed by Pauquy (1834: 423), based on plants collected from Somme, France, but later it was overlooked in nearly all botanical treatises and synonymies of the genus *Typha*. Dudley (1886: 102) described

a variety of *Typha latifolia*, *T. latifolia* var. *elongata* Dudley, which was later listed in the synonymy of *T. latifolia* under the invalid species binomen '*T. elongata*' (Dudley) Kronfeld (1889: 176), but it was never validated later. Since *T. elongata* Pauquy (1834: 423) is a validly published species name, a new replacement name is proposed for the fossil-species.

Typha krasnovae Doweld, **nom. nov.**

Replaced name. *Typha sibirica* Krasnova, p. 45. 1987 non *Typha sibirica* Dorofeev, p. 24. 1982 [*Typha sibirica* Dorofeev, p. 1482. 1966, nom. inval. (ICN, Art. 40.1)].

Holotype. Russian Federation: Krasnojarsk territory, Emeljanovsky district, Sorokinov village, 27 Jul 1977, V.Smirnova (LE).

Eponymy. In honour of Alla Nikolaevna Krasnova (1938–), eminent Russian (Soviet) specialist of the genus *Typha*.

Occurrence. Extant; Eurasia (southern Siberia).

When Krasnova (1987) established a new extant species of *Typha*, *T. sibirica* A. Krasn., from the southern Siberian region, she overlooked the existence of the fossil-species name *T. sibirica* P.I. Dorofeev (1982: 24), which was validly published with a description in Russian and the required type designation [earlier, Dorofeev (1966: 1482) invalidly described the fossil-species with no type designation]. A new replacement name is created for the extant species with the species epithet *krasnovae*, commemorating the contribution of Dr. Alla Nikolaevna Krasnova to the systematics of *Typha* for her discovery of numerous new *Typha* taxa during the course of decades of very productive research.

Typha transdnestrovica Doweld, **nom. nov.**

IFPNI: DC8B1F65-4141-4AE2-A4AC-B9B34F52DB8B.

Replaced name. *Typha elliptica* Negru, p. 68. 1972 non *Typha elliptica* Gmelin, p. 603. 1808.

Holotype. [fossil seeds] Severinovka village, Rybnitsky district, Transdnestrovian Moldavian republic [Moldova]; Upper Miocene (Sarmatian = Serravallian) (*Negru coll. s.n.*, Grădina Botanică (Institut), Academiei de Ştiinţe a Moldovei, Chişinău, Moldova).

Eponymy. From *locus classicus*, Transdnestrovia.

Occurrence. Miocene; Europe.

TYPIFICATION OF SOME FOSSIL *TYPHA*

As a contribution to the treatment of the genus *Typha* for the *Palaeoflora Europaea* Project, two long-established fossil-species of *Typha* are lecto- and neotypified for the first time.

Typha angustior Saporta (1888: 100).

IFPNI: 28C9415A-373C-42FC-9AA8-9445052E69BB.

Lectotype (designated here). [fossil leaves] Aix-en-Provence, Bouches-du-Rhône, Provence-Alpes-Côte d'Azur, France; Lower Miocene (Aquitanian) (MNHN.F.11789, Muséum National d'histoire naturelle, Paris, France) – figured by Saporta 1888: pl. 7, fig. 2A.

Occurrence. Miocene; Europe.

Typha latissima A. Braun (in Bruckmann 1849: 227)

IFPNI: F5FE405B-1BCA-4D6C-A988-62474442FD60.

Neotype (designated here). [fossil leaves] Schrotzburg, Öhningen-Schienen, Landkreis Konstanz, Baden-Württemberg, Germany; Upper Miocene (Tortonian) (# 11401 [= Ob.Pfl.L. I 5], Eidgenössische Technische Hochschule Zürich, Palaeobotanische Sammlung, Zürich, Switzerland) – figured by Hantke 1954: pl. 15, fig. 3.

Occurrence. Miocene; Northern Eurasia, North America.

Since the original materials of *Typha latissima* A. Braun are lost, one of the best-preserved specimens of leaves from Schrotzburg, re-collected and illustrated by Hantke (1954: 84), was formally designated as neotype of the fossil-species. Reid & Chandler (1926: 60) united distinctive fossil fruits and seeds from

Lower Oligocene sediments of Bembridge, Isle of Wight (U.K.) with the fossil-species originally established on the basis of leaves. Since these reproductive remains were found beyond the organic connection with leaves (Chandler 1963: 369, Collinson 1983: 211), and since there is no factual connection between the British Oligocene fossil materials and Upper Miocene (Tortonian) fossils of Germany, the seed remains are excluded from the fossil-species *Typha latissima* A. Braun and placed in a new distinct fossil-species, *Typha latissimisperma* Doweld, *sp. nov.*, based on fossil seeds only.

Typha latissimisperma Doweld,
sp. nov.

IFPNI: F5FE405B-1BCA-4D6C-A988-62474442FD61.

Seeds pendulous anatropous, narrowly elliptic, 487–1162 μm long, 235–467 μm wide, translucent. Rounded end of seed often narrowing gradually with a broad mucro; opposite end truncate with a circular aperture which may be closed by an operculum with a central, stalk-like mucro. Raphe a narrow longitudinal fold. Seed coat composed of two layers: outer layer (?testa) of longitudinally elongate, oblong cells, inner layer (?tegmen) of transversely elongate hexagonal cells. [Seeds not seen within fruits]. (Modified after Collinson 1983).

Holotype. [fossil seeds] Bembridge Marls, Gurnard Bay, Isle of Wight, U.K.; Lower Oligocene (Rupelian) (V.17528, Natural History Museum, London, U.K.) – figured by Reid & Chandler 1926: pl. 3, fig. 11.

Eponymy. Combination of the name *Typha latissima* and Ancient Greek σπέρμα, a seed.

Occurrence. Oligocene; Europe.

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REFERENCES

BARKWORTH M.E. (CONVENER), WATSON M. (SECRETARY), BARRIE F.R., BELYAEVA I.V., CHUNG R.C.K., DAŠKOVÁ J., DAVIDSE G., DÖNMEZ A.A., DOWELD A.B., DRESSLER S., FLANN C., GANDHI K., GELTMAN D., GLEN H.F., GREUTER W., HEAD M.J., JAHN R., JANARTHANAM M.K., KATINAS L., KIRK P.M., KLAZENGA N., KUSBER W.-H., KVAČEK J., MALÉCOT V., MANN D.G., MARHOLD K., NAGAMASU H., NICOLSON N., PATON A., PATTERSON D.J., PRICE M.J., PRUD'HOMME VAN REINE W.F., SCHNEIDER C.W., SENNIKOV A., SMITH G.F., STEVENS P.F., YANG Z.-L., ZHANG X.-C. & ZUCCARELLO G.C. 2016a. Report of the Special Committee on Registration of Algal and Plant Names (including fossils). Taxon, 65: 670–672.

BARKWORTH M.E. (CONVENER), WATSON M. (SECRETARY), BARRIE F.R., BELYAEVA I.V., CHUNG R.C.K., DAŠKOVÁ J., DAVIDSE G., DÖNMEZ A.A., DOWELD A.B., DRESSLER S., FLANN C., GANDHI K., GELTMAN D., GLEN H.F., GREUTER W., HEAD M.J., JAHN R., JANARTHANAM M.K., KATINAS L., KIRK P.M., KLAZENGA N., KUSBER W.-H., KVAČEK J., MALÉCOT V., MANN D.G., MARHOLD K., NAGAMASU H., NICOLSON N., PATON A., PATTERSON D.J., PRICE M.J., PRUD'HOMME VAN REINE W.F., SCHNEIDER C.W., SENNIKOV A., SMITH G.F., STEVENS P.F., YANG Z.-L., ZHANG X.-C. & ZUCCARELLO G.C. 2016b. (276–279) Proposals to provide for registration of new names and nomenclatural acts. Taxon, 65: 656–658.

BRUCKMANN A.E. 1849. Flora oeningensis fossilis. Die oeninger Steinbrüche, das Sammeln in denselben und die bis jetzt dort gefundenen Pflanzenreste. Jahresh. Vereins Vaterl. Naturk. Württemberg, 5: 215–238.

CHANDLER M.E.J. 1963. Revision of the Oligocene Floras of the Isle of Wight. Bull. Brit. Mus. (Nat. Hist.), Geol., London, 6: 321–384.

COLLINSON M.E. 1983. Palaeofloristic assemblages and palaeoecology of the Lower Oligocene Bembridge Marls, Hamstead Ledge, Isle of Wight. Bot. J. Linn. Soc., 86: 177–225.

DOROFEEV P.I. 1963. Tretichnye rasteniya Kazakhstana [Tertiary plants of Kazakhstan]. Bot. Zhurn., 48: 171–181. [In Russian].

DOROFEEV P.I. 1966. O miotsenovoy flore iz okrestnostey s. Yurovskogo na Irtyshe [On the Miocene flora from the outskirts of Yurovskoe village on Irtysh]. Bot. Zhurn., 51: 1480–1489. [In Russian].

DOROFEEV P.I. 1982. K sistematike tretichnykh Typha [On the systematics of Tertiary Typha]: 5–33 In: Wieliczkiewicz F.Yu. (ed.), Paleokarpologicheskie issledovaniya Kaynozoya [Palaeocarpological studies of the Cainozoic]. Nauka i tekhnika, Minsk. [In Russian].

DOWELD A.B. 2015. The International Fossil Plant Names Index (IFPNI): First Year Report. Inter.

Organ. Palaeobot. (IOP) Newsletter, 108: 4–5, Appendix A: [1]–[8].

DOWELD A.B. 2016. The International Fossil Plant Names Index (IFPNI): A global registry of scientific names of fossil organisms started. Palaeobotanist, 65: 203–208.

DUDLEY W.R. 1886. The Cayuga flora, Part I: A catalogue of the Phaenogamia growing without cultivation in the Cayuga Lake Basin. Andrus & Church, Ithaca, N.Y.

GMELIN C.C. 1808. Flora badensis alsatica et confinium regionum cis et transrhenana plantas a lacu bodamico usque ad confluentem mosellae et rheni sponte nascentis exhibens secundum systema sexuale cum iconibus ad naturam delineatis, 3. In Officina Aul. Mülleriana, Karlsruhe.

HANTKE R. 1954. Die fossile Flora der obermiozänen Oehninger-Fundstelle Schrotzburg (Schienerberg, Süd-Baden). Denkschr. Schweiz. Naturf. Ges., 80(2): 1–118.

INTERNATIONAL FOSSIL PLANT NAMES INDEX (IFPNI). 2014–onwards. Global registry of scientific names of fossil organisms covered by the International Code of Nomenclature for Algae, Fungi, and Plants (formerly International Code of Botanical Nomenclature) and International Code of Zoological Nomenclature. [online]. [Cited 10 August 2017]. Available from: http://www.fossilplants.info.

KRASNOVA A.N. 1987. K sistematike rogoza shirokolistnogo (Typha latifolia L.) na territorii SSSR [On the systematics of long-leaves cattail (Typha latifolia L.) of the territory of the USSR]. Trudy Inst. Biol. Vnutrenn. Vod Akad. Nauk SSSR, 54(57): 43–59. [In Russian].

KRONFELD M. 1889. Monographie der Gattung Typha Tourn. (Typhinae Agdh., Typhaceae Schur-Engl.). Verh. Kaiserl.-Königl. Zool.-Bot. Ges. Wien, 39(Abh.): 89–192.

LINNAEUS C. 1753. Species plantarum, exhibentes plantas rite cognitas, ad genera relatas, cum differentiis specificis, nominibus trivialibus, synonymis selectis, locis natalibus, secundum systema sexuale digestas, Vols. 1–2. L. Salvii, Stockhom.

MCNEILL J., BARRIE F.R., BUCK W. R., DEMOULIN V., GREUTER W., HAWKSWORTH D.L., HERENDEN P.S., KNAPP S., MARHOLD K., PRADO J., PRUD'HOMME VAN REINE W.F., SMITH J.F., WIERSEMA J.H. & TURLAND N.J. (eds) 2012. International Code of Nomenclature for algae, fungi and plants (Melbourne Code) adopted by the Eighteen International Botanical Congress Melbourne, Australia, July 2011. Regn. Veg., 154: 1–240.

NEGRU A.G. 1972. Rannesarmatskaya flora severovostoka Moldavii [Early Sarmatian flora of the north-east of Moldavia]. Știință [Shtiintsa], Chișinău [Kishinev]. [In Russian].

PAUQUY C.L.C. 1831. Statistique botanique ou flore du département de la Somme, et des environs de Paris, description de toutes les plantes qui y croissent spontanément distribuées suivant la méthode naturelle d'une part et le systême de Linnée de l'autre, avec l'indication de leur lieu natal, de leur durée, de la couleur de leurs fleurs et de leur emploi dans la médecine, les arts, et l'économie domestique. Imprimerie de R. Machart, Amiens.

REID E.M. & CHANDLER M.E.J. 1926. The Bembridge flora. Catalogue of Cainozoic plants in the Department of Geology, British Museum (Natural History), Vol. 1. The Trustees of the British Museum (Natural History), London.

SAPORTA G. DE. 1888. Dernières adjonctions à la flore fossile d'Aix-en-Provence précédées de notions stratigraphiques et paléontologiques appliquées à l'étude du gisement des plantes fossiles d'Aix-en-Provence. Ann. Sci. Nat., Bot., Sér. 7, 7: 65–104.

TURLAND N.J., KEMPA M., KNAPP S., SENKOVÁ E. & WIERSEMA J.H. 2017a. XIX International Botanical Congress: preliminary guiding mail vote on nomenclature proposals. Taxon, 66: 995–1000.

TURLAND N.J., WIERSEMA J.H., MONRO A.M., DENG Y.-F. & ZHANG L. 2017b. XIX International Botanical Congress: Report of Congress action on nomenclature proposals. Taxon, 66: 1237–1245.