

Names of *Potamogeton* (*Potamogetonaceae*) proposed by Bohemian botanists in the period 1819–1902

Jména taxonů rodu *Potamogeton* (*Potamogetonaceae*) zveřejněná českými botaniky v letech 1819–1902

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Names of taxa of the genus *Potamogeton* proposed by Bohemian authors are discussed and typified. 74 names are listed, proposed by L. Čelakovský, F. X. Fieber, P. M. Opiz, J. S. Presl, K. B. Presl (= C. B. Presl), J. Rohlena, F. J. Ruprecht, D. Sloboda and I. F. Tausch. Three names and their types are of importance for contemporary plant taxonomy: *P. berchtoldii* Fieber, *P. xangustifolius* J. S. Presl [= *P. gramineus* L. × *P. lucens* L.] and *P. friesii* Rupr. The study has also proved the justification of the use of these names. The correct name for the species known as *P. malaianus* [auct.] or *P. mucronatus* C. B. Presl is *P. wrightii* Morong. In order to preserve nomenclatural stability, a justification for the conservation of the name *P. maackianus* A. Benn. against *P. serrulatus* Regel et Maack is given.

Key words: Nomenclature, typification, taxonomy, *Potamogeton*

Introduction

There are two main tasks of taxonomic research: to detect entities which truly exist and to find the correct name for them. The latter is often complicated by a great number of names whose taxonomic interpretation remains unclear. While certain names relate to existing taxa, many others have been based on mere ecomorphoses or extreme cases of common variation range and are quite unapplicable in contemporary taxonomy. Typification of the names is therefore very important for elucidation of nomenclature.

In a genus with such complicated taxonomy (Wiegleb 1988), extensive diversity (Cook et al. 1974, Cook 1990) and enormous morphological plasticity (Preston 1995, van Wijk 1988) as *Potamogeton*, the total number of published names is very high. Approaches of the earlier authors produced overestimations of the importance of particular morphotypes usually based on morphological plasticity resulting from a great variability of environmental factors. Almost all of them have been formally described on a taxonomic level between species and subforma and subsequently incorporated in a very complicated hierarchy of infraspecific units (e. g. Ascherson et Graebner 1897, Fischer 1907, Graebner 1907, Hagström 1916, Soó 1934, 1936). During a long-term study and excerpting of data on published new names from available literature I have assembled a databasis involving 2286 names relating to *Potamogeton*. All these names, however, relate to approximately 74–93 truly existing species (the number of species varies according to taxonomic concept). Interpretation of most of the names is still unresolved. Several more important names

were already typified (e. g. Burdet et al. 1982, Dandy 1937, Dandy et Taylor 1938, Gonzales Gutierrez 1987, Haynes 1985, 1986, Lazare et Charpin 1996, Preston 1988, 1989a, 1989b, Reveal 1977). Many other authentic specimens were seen and commented already by Bennett (many works, e. g. Bennett 1889a, 1889b, 1890–1891, 1891–1908) and by Hagström (1916), although Hagström sometimes overestimated the authenticity of examined specimens (see the text below on *P. berchtoldii*). A few works dealing with interpretation and/or typification of some older names often with unclear taxonomic status have appeared recently (Hellquist et Crow 1986, Hellquist et al. 1988, Wiegleb 1990a, 1990b). However, there are much more names which need further attention (see also Wiegleb 1988). Many plants have been recognized as new taxa and subsequently described but never mentioned again by another author.

Authentic collections of Bohemian botanists

In the period between and including the years 1819 and 1902 Bohemian botanists published 72 new names based on taxonomic studies in both Central European and worldwide flora, most of which were taxa described as new for science. Most of them were never discussed and none was typified. Studying herbarium material deposited at BRNM, BRNU, HR, LIM, LIT, MJ, MMI, MP, OL, OLM, OP, PL, PR, PRC, ROZ in the course of revising the genus *Potamogeton* in the Czech Republic, I have detected several type and/or authentic specimens in PR and PRC. I have marked all studied type specimens with type labels on the herbarium sheets. The plants are mostly in good condition, but a few of them are only fragmentary. The following study focuses on all *Potamogeton* names published by Bohemian botanists between 1819 and 1902. The term “Bohemian botanists” includes all botanists born and/or living and working in Bohemia, a part of (the present) the Czech Republic. The Slovak botanist D. Sloboda is also included into the present study as an author of a Flora covering also the territory of Bohemia.

E. Hofmann (1802–1875), a member of Opiz's Pflanzentauschanstalt [Herbarium Duplicates Exchange Institute], played an important role in the indication of the authentic specimens. His valuable notes are often found on herbarium sheets, which prove the immediate relation of specimens to Fieber's or Opiz's names. Hofmann's labels are sometimes very large with detailed descriptions, extensive synonymy and further remarks dealing with authenticity of specimens. Unfortunately, Hofmann's handwriting is sometimes almost illegible. Hofmann himself recognized many new taxa but he never published their descriptions. There are many herbarium specimens preserved in PR with very extensive labels attached to the herbarium sheets with his notes. Some of them bear new unpublished names proposed by Hofmann.

Interpretation of names

Potamogeton taxa described by Jan Svatopluk Presl (1791–1849) and Karel Bořivoj Presl (1794–1852)

1. *P. ×angustifolius* J. S. Presl in Bercht. et J. S. Presl, Rostlinář 1, fasc. Žábnjkowité: 19. 1821, pro sp. (“angustifolium”)
[= *P. gramineus* L. × *P. lucens* L.]

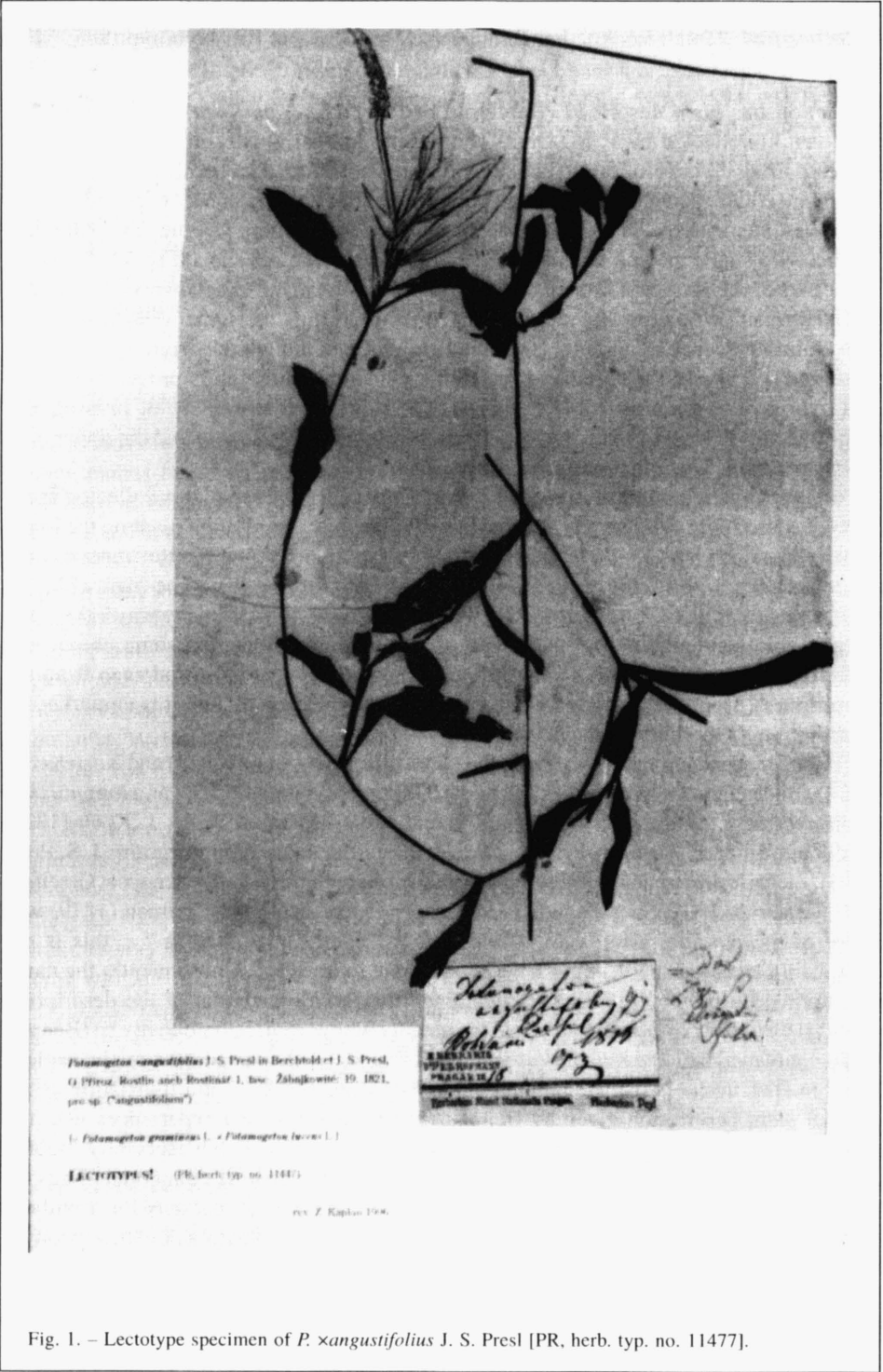
Typi: **lectotypus hoc loco electus**: “Bohdaneč” (1818 Opiz PR, herb. typ. no. 11479); **isolectotypus**: “Teich Rozkož bei Bohdanetsch” (s. d. Opiz PR, herb. typ. no. 11478, *planta supra*).

The taxon has been described (Berchtold et Presl 1821) as a species based on the specimen(s) collected by P. M. Opiz. The description [originally in Czech, translated here into English] is as follows: “*Potamogeton angustifolium*. Leaves alternate, petiolate, linear-lanceolate, acute, narrower than stipules, peduncles thickened, twice longer than the leaves, stems terete. It grows in pools near Bohdaneč, where P. Opiz has found it.”

There is a single incomplete plant on the authentic herbarium sheet (Fig. 1). The small upper part of the stem was broken off. The habitus of the plant was, however, completed by E. Hofmann who drew the missing part in pencil using an original rosette of leaves with an inflorescence as a model (see note below). Even though the original plant is not preserved as a whole, the remaining part of the stem alone sufficiently proves its identity as a hybrid of *P. gramineus* and *P. lucens*. The submerged leaves are of intermediate shape and size between both putative parents, lower leaves are sessile and the upper ones shortly petioled. This plant has been chosen as the lectotype.

Another Opiz’s herbarium sheet has been found, bearing three plants collected at the *locus classicus* (Fig. 2). The plant on the lower left is *P. crispus* L., the plant on the lower right, represented by a single leaf, is *P. lucens* L. and the third plant in the upper middle of the sheet is *P. xangustifolius* J. S. Presl very similar to the lectotype plant (Fig. 2). Both plants relating to *P. xangustifolius* are conspicuously alike in many ways: the same morphotype, comparable size and shape of leaves and stipules, the same colour etc. Therefore I suspect that both plants were collected at the same time and even from the same clone. I propose the second plant as an isolectotype even though it is unmarked by its author on the herbarium sheet.

The subsequent authors have treated the taxon differently. Opiz (1823) and Kosteletzky (1824) still accepted it as a species. Fieber (1838) united it with *P. zizii* var. *elongatus* but incorrectly adopted the later and invalid name *P. zizii* Mert. et W. D. J. Koch [1823, validly published as late as by Roth 1827] over the earlier name *P. angustifolius* J. S. Presl [1821]. Fieber’s preference was followed by numerous authors (e. g. Ascherson et Graebner 1897, Graebner 1907, Suessenguth 1936, Casper et Krausch 1980). Trimen (1879) was aware of the possible priority of *P. angustifolius* over *P. zizii* stating “... this is not improbably an earlier name, but I have been unable to trace it.”. Consequently the name was studied by Bennett (1889b) who obtained the Latin translation of the description provided by L. Čelakovský and accepted the identity with *P. zizii*. Subsequently he (Bennett 1890) confirmed that *P. angustifolius* antedated *P. zizii*. Further discussion on the name is found in Hagström (1916). He pointed out a discrepancy in the Latin translation of the original plant description given by Bennett (1889b) and his own experiences with the hybrid of *P. gramineus* and *P. lucens* which he called *P. zizii*. The author especially doubted whether the expression *folia stipulis angustiora* fits the hybrid concerned. Thus he suggested “it is most likely that *P. angustifolius* ... are only *gramineus*-form without floating leaves.”. Hagström nevertheless considered *P. angustifolius* as a doubtful synonym of *P. zizii*. This discrepancy is based on the defective point in the original description where the proportion of leaves and stipules are most likely expressed conversely. The type plant deposited in PR in fact fits both Hagström’s and the current concept of the hybrid between *P. gramineus* and *P. lucens* very well.



Potamogeton angustifolius J. S. Presl in Borchthold et J. S. Presl,
G. Pfez. Rostlin. nach Rostlin. 1. t. 1. 1821. Záhajkovité. 19. 1821.
pro sp. ("angustifolium")

(*Potamogeton gramineus* L. = *Potamogeton lucens* L.)

LECTOTYPE! (PR, herb. typ. no. 11447)

ex Z. Kaplan 1996

Fig. 1. – Lectotype specimen of *P. angustifolius* J. S. Presl [PR, herb. typ. no. 11477].

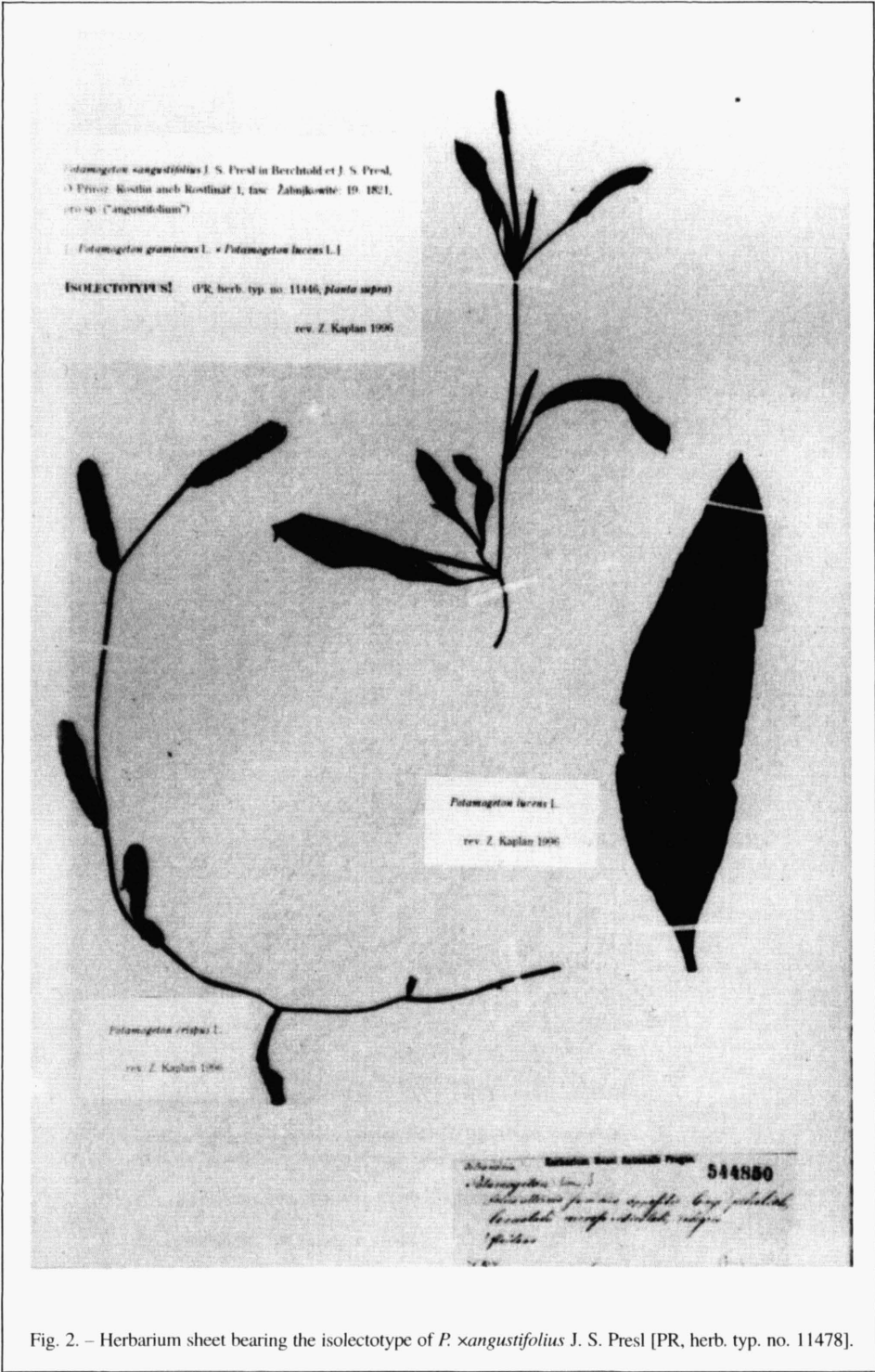


Fig. 2. – Herbarium sheet bearing the isolectotype of *P. angustifolius* J. S. Presl [PR, herb. typ. no. 11478].

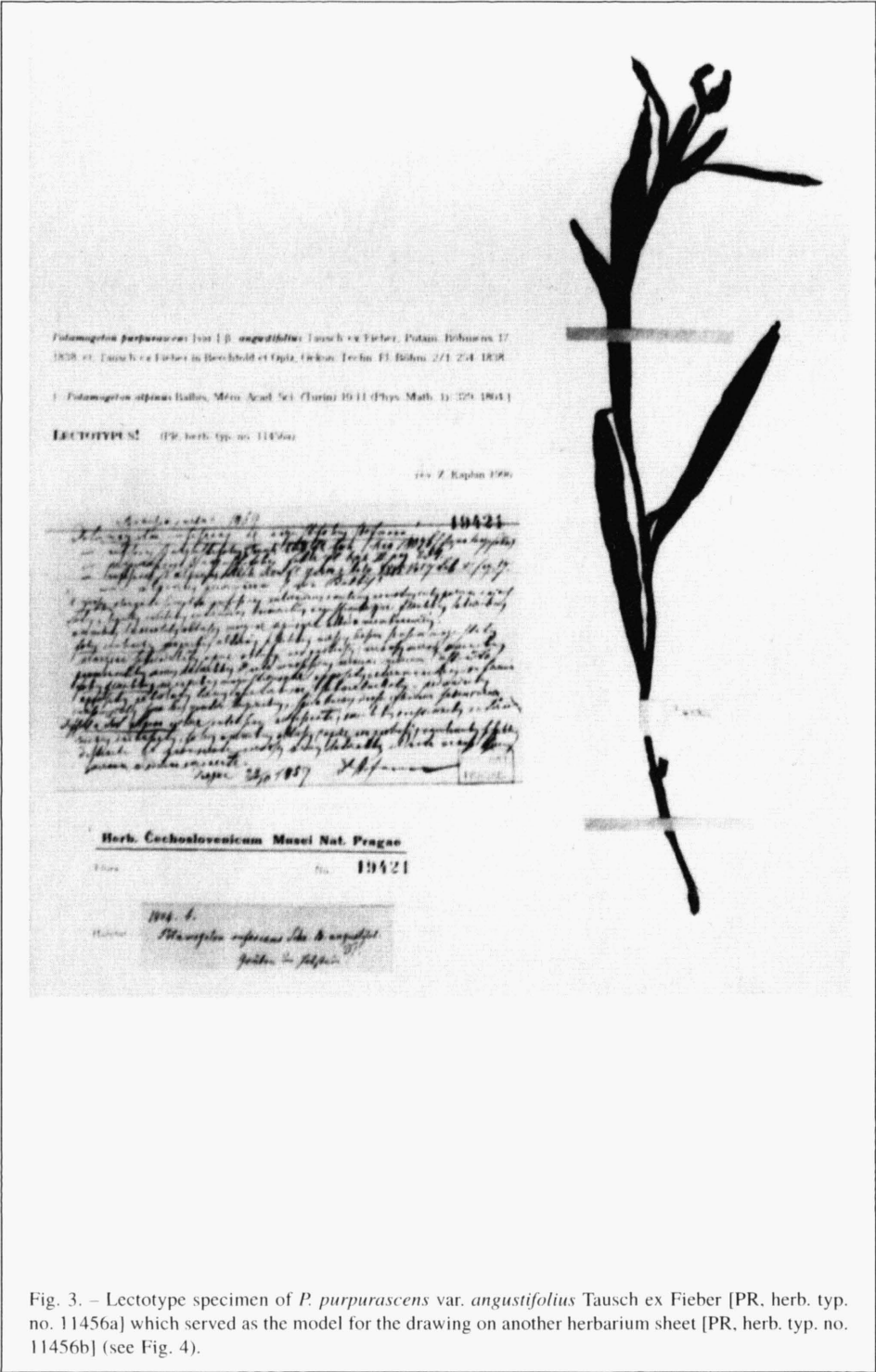


Fig. 3. – Lectotype specimen of *P. purpurascens* var. *angustifolius* Tausch ex Fieber [PR, herb. typ. no. 11456a] which served as the model for the drawing on another herbarium sheet [PR, herb. typ. no. 11456b] (see Fig. 4).

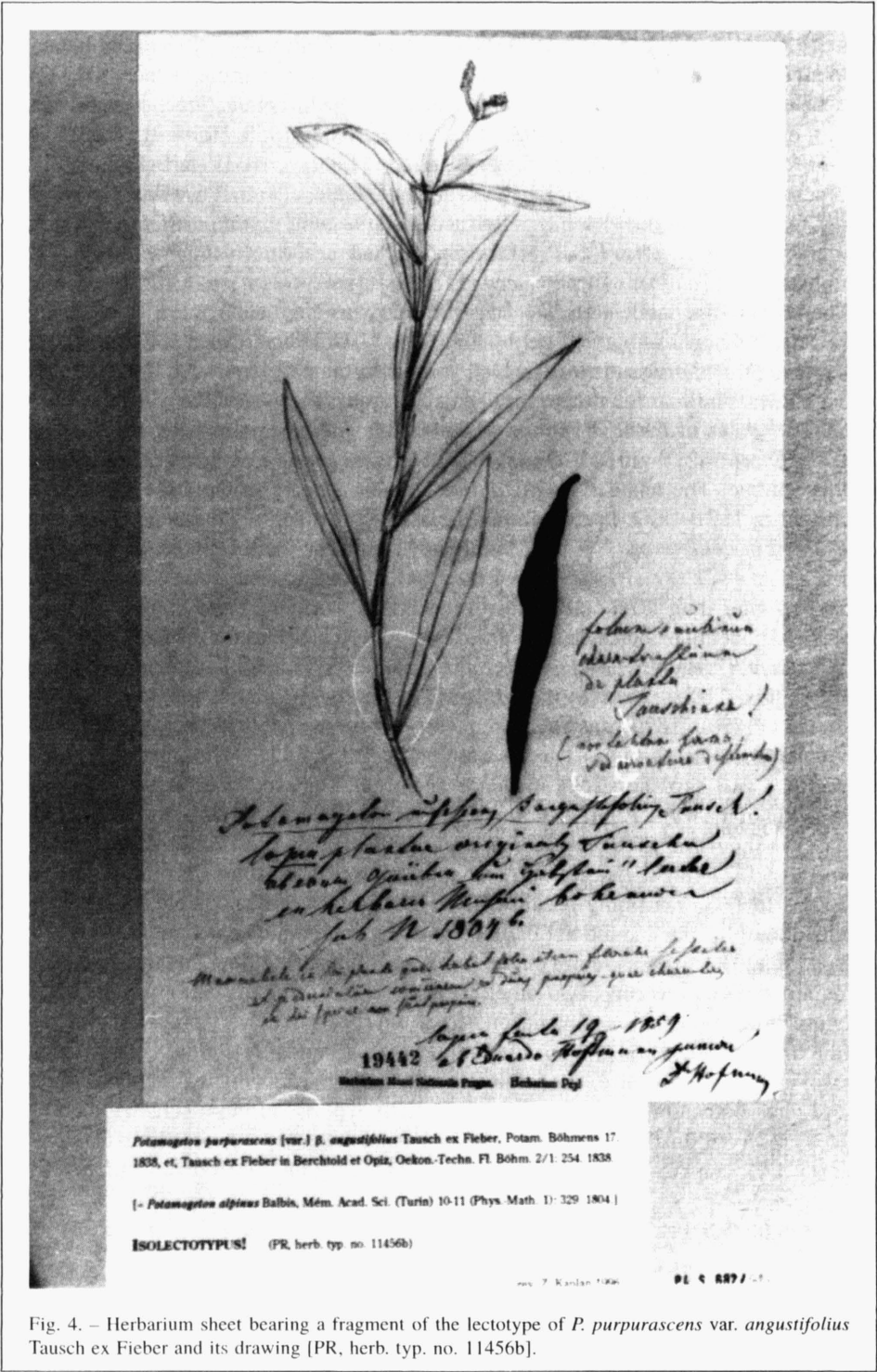


Fig. 4. – Herbarium sheet bearing a fragment of the lectotype of *P. purpurascens* var. *angustifolius* Tausch ex Fieber and its drawing [PR, herb. typ. no. 11456b].

Bennett (1919) disagreed with Hagström's result when he stated "The author [= Hagström 1916: 210] doubts whether this name applies to *Zizii*, but the Bohemian botanists have no doubt, and Fieber, Presl, Kosteletsky, and Celakovsky so consider it.". This is also the reason why the name cannot be considered to be forgotten. Czech botanists (e. g. Domin et Podpěra 1928, Domin 1935, Skalický et Toman 1958, Holub et al. 1983) and foreigners (e. g. Fritsch 1909, Schinz et Keller 1914, Jávorka 1925, Schinz et Keller 1928, Druce 1932, Glück 1936, Janchen 1960, 1964, Hess et al. 1967, Rauh et Senghas 1988, Aeschmann et al. 1994) have often accepted the name *P. xangustifolius*. Therefore the name *P. xangustifolius* J. S. Presl is proposed here as the correct name for the hybrid combination *P. gramineus* L. $\times$ *P. lucens* L.

The very precise publication dates of particular issues (fascicles) of Presl's "Rostlinář" are mostly unknown as pointed out by Tomšovic (1996). The reason is that the edition dates were printed on issue covers which were unfortunately destroyed by bookbinding of our copies. The years on title pages of each volume is the year of the edition of the last issue. The issues of the first volume where *Potamogeton* has also been published was edited between 1821 and 1823. The issue with *Potamogeton* was edited as the second one in this volume. The name *P. angustifolius* already appears in Opiz (1823) so it was published in 1821–1822. In the relevant issue of "Rostlinář", "Potamogeton petiolare. C. B. Presl in delic. prag. 1. p. 151." is already cited. The work *Deliciae Pragenses* was published in 1822 (Presl J. S. et Presl C. B. 1822) and it seems that "Rostlinář" was published later than "Deliciae". However, certain works of Presl should have been published sooner than indicated, as pointed out by Herink (1996) for the work "Počátkové rostlinosloví" (Presl J. S. 1848). In fact, the issue of "Rostlinář" with *Potamogeton* was possibly published earlier even though J. S. Presl probably intended to do it vice versa.

Bennett (1889b, 1890) was already concerned with the publication date of the name. He quoted that "the fascicles 1 to 10 were published in 1821". His statement is likely correct and as I have no strong evidence against it, I accept 1821 as the year of the publication of the name *P. angustifolius* J. S. Presl. Janchen (1964) is of the same opinion when cites the name as "*Potamogeton angustifolius* J. Sv. Presl in B. W. Berchtold et J. Sv. Presl 1821 (nicht erst 1823)". The authorship is, according to common practice, attributed to J. S. Presl only because B. W. Berchtold was responsible for a practical application of botany and did not participate in the taxonomic characterization.

Regarding Hofmann's picture on the first herbarium sheet, I feel that the drawing can be regarded as trustworthy. Two other sheets have been found with *P. alpinus* Balbis proving Hofmann's figures of plants on herbarium sheets to be very precise and reliable. On the first one [PR, herb. typ. no. 11456b] (Fig. 4), a stem of *P. alpinus* is depicted with 9 leaves and an inflorescence. The single leaf attached to the drawing is an actual desiccated part of plant body. On the second sheet [PR, herb. typ. no. 11456a] (Fig. 3), the model plant is preserved. Just the mentioned leaf is missing in the appropriate place. Comparing both sheets, it can be clearly seen how exactly has Hofmann illustrated the plant.

2. *P. siculus* J. S. Presl in Bercht. et J. S. Presl, Rostlinář 1, fasc. Žábnjkwitě: 21. 1821. ("siculum")

[= *P. pectinatus* L.]

The presence of this name in "Rostlinář" is really a great surprise. The binomial *P. siculus* has been usually attributed to Tineo and used for *P. coloratus*-like plants occurring in

Sicily, Corsica and France (Gussone 1845, Rouy 1912, Casper et Krausch 1980, Pignatti 1982). Presl's description is however entirely different: "*Potamogeton siculum*. Leaves setaceous-linear, acute, alternate, in two rows, with leaf sheaths on the bases; leaf sheaths membranous on the margin, a little shorter than the leaves; inflorescences spicate, verticillate. It grows in pools in Sicily."

No authentic specimen has been found in the herbaria studied. In all likelihood the name relates to *P. pectinatus* L. In the infrageneric system, it was originally placed among species with leaf sheaths after *P. pectinatus* L. and before *P. interruptus* Kit. and *P. vaillantii* Roem. et Schult. which both have been recently treated as synonyms of *P. pectinatus*. Moreover, no other species with leaf sheaths besides *P. pectinatus* occurs in Sicily.

The name *P. siculus* Tineo (in Guss., Fl. Sic. Syn. 2: 790. 1845.) is thus a later homonym and as illegitimate name it cannot be used. Taxonomically, it is usually considered to be conspecific with *P. coloratus* by contemporary botanists. Only a few authors (Casper et Krausch 1980, Pignatti 1982) still kept the species, most likely for tradition rather than as a consequence of taxonomic justification. The next validly published available name for that plant if still recognized as a species is *P. subflavus* H. Loret et Barrandon (Fl. Montpellier 2: 671. 1876.).

3. *P. cornutus* J. S. Presl et C. B. Presl, Fl. Čech. 37. 1819. ("cornutum")

≡ *P. lucens* [var.] β *cornutus* (J. S. Presl et C. B. Presl) Kostel., Clav. Anal. Fl. Bohem. Phaner. 24. 1824.

≡ *P. lucens* f. *cornutus* (J. S. Presl et C. B. Presl) G. Fischer, Ber. Bayer. Bot. Ges. 11: 64. 1907.

[= *P. lucens* L.]

Typi: **lectotypus hoc loco electus**: "Bohemia in piscinis et stagnis ad Časlaviam" [= Čáslav] (s. d. Opiz PR, herb. typ. no. 11461); **isolectotypus**: "In stagnis Časlawa. Opiz." (s. d. Opiz PRC, herb. typ. no. 928).

An original description of *P. cornutus* (Presl J. S. et Presl C. B. 1819) is as follows: "250. *P. cornutum*, *R. ružkowatý*, fol. superioribus ovato-lanceolatis lucidis planis in petiolum attenuatis, inferioribus lanceolatis longissime acuminatis. *Stagna: Časlawa*. Oc."

Labels on both the authentic herbarium specimens (the lectotype plant is shown in Fig. 5) are handwritten by K. B. Presl. But the plants were gathered by Opiz which is expressed in one of the specimens and in the protologue of the name by the abbreviation "Oc."

Both authentic plants relate to *P. lucens* L. with some leaves acuminate to reduced to phyllodes. Plants with these features have been repeatedly described under the names *P. acuminatum* Schumach., *P. volhynicus* Besser ex Roem. et Schult., *P. lucens* var. *macrophyllus* Wallr., *P. lucens* var. *diversifolius* Mert. et W. D. J. Koch and *P. lucens* var. *corniculatus* G. F. W. Meyer. That phenotype deserves no taxonomic status because the leaf shape often varies even on a single plant. The lowest leaves on the stems are usually reduced or partially reduced to phyllodes, otherwise they are narrowly elliptical to oblong-elliptical. Intermediate leaves occur between them.

4. *P. purpurascens* Seidl ex J. S. Presl et C. B. Presl, Fl. Čech. 37. 1819.

≡ *P. alpinus* var. *purpurascens* (Seidl) Aschers. et Graebner, Synops. Mitteleurop. Fl. 1: 311. 1897.

≡ *P. alpinus* var. *vulgaris* f. *purpurascens* (Seidl) G. Fischer, Ber. Bayer. Bot. Ges. 11: 45. 1907.

≡ *P. rufescens* f. *latifolius* Cham. et Schlechtend., Linnaea 2: 212. 1827. ("forma latifolia")

[= *P. alpinus* Balb.]

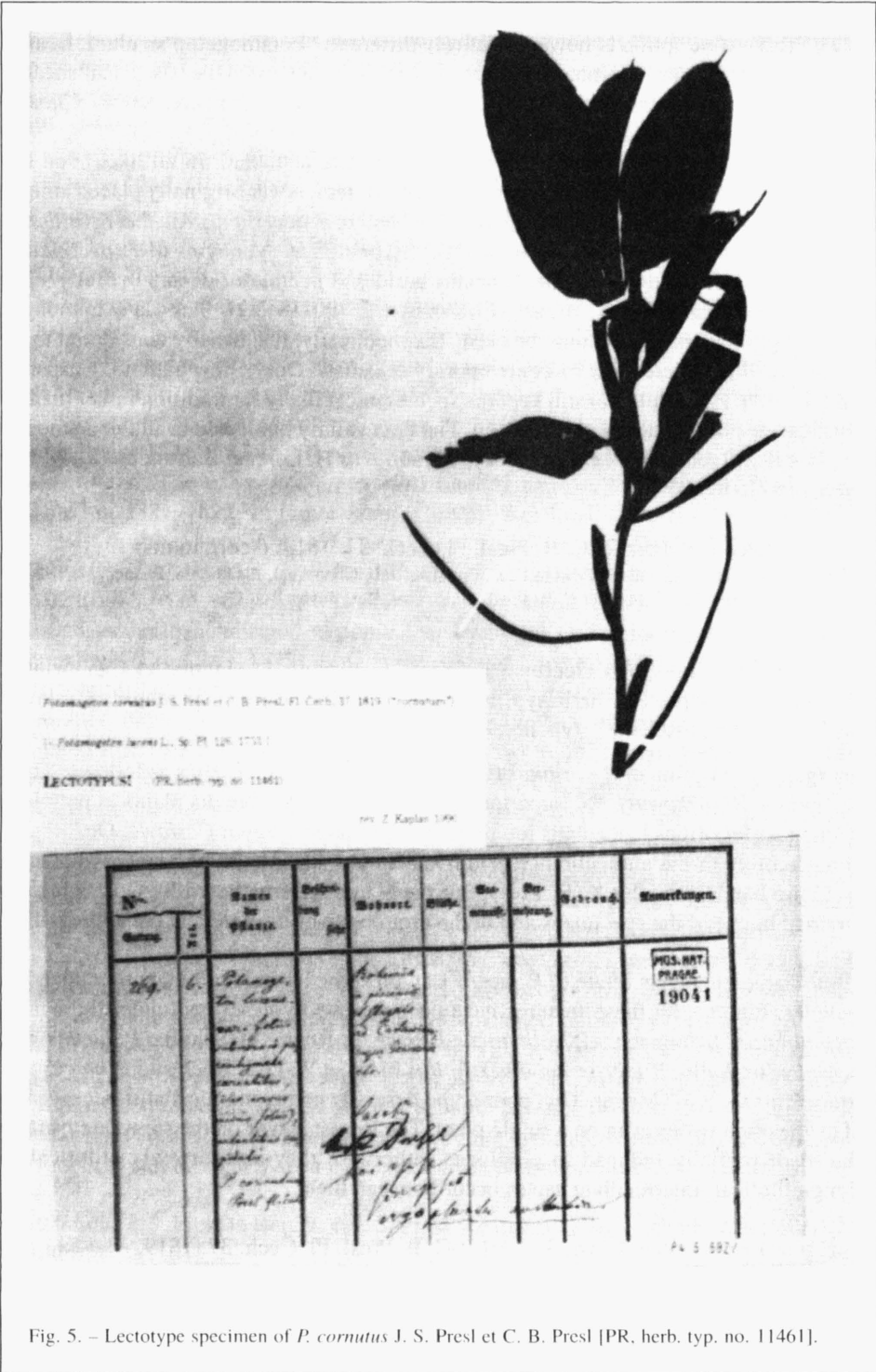


Fig. 5. – Lectotype specimen of *P. cornutus* J. S. Presl et C. B. Presl [PR, herb. typ. no. 11461].

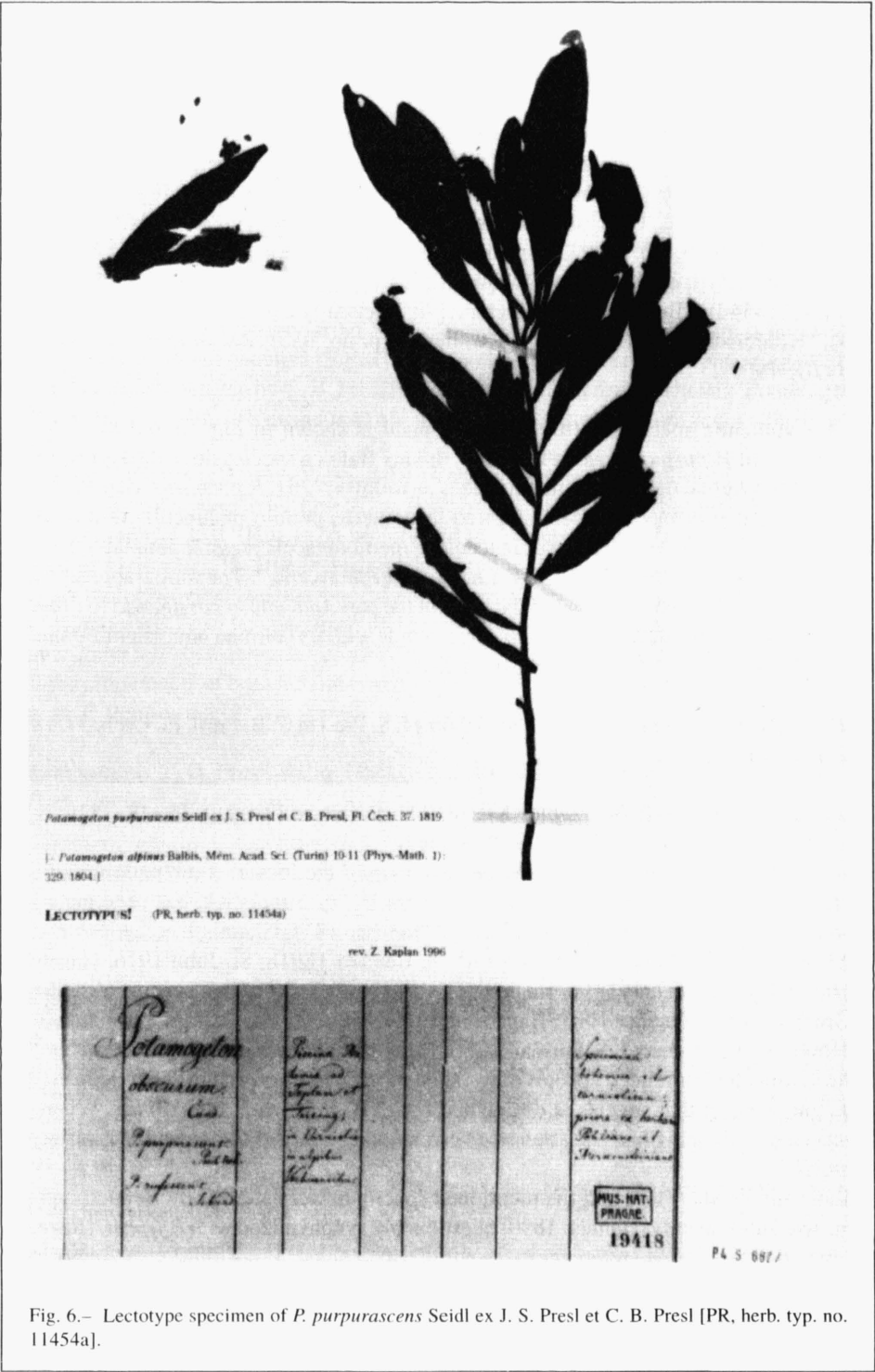


Fig. 6.— Lectotype specimen of *P. purpurascens* Seidl ex J. S. Presl et C. B. Presl [PR, herb. typ. no. 11454a].

Typi: **lectotypus hoc loco electus**: “Piscinae Bohemiae ad Teplam et Teising” [= Teplá et Toužim] (s. d. [scriptis C. B. Presl] PR, herb. typ. no. 11454a); **isolectotypi**: “Gräben um Theising” [= Toužim] (s. d. [Tausch] PR, herb. typ. no. 11457a) [Tausch Herb. Fl. Bohem. no. 1804]; “Gräben b. Theising” (s. d. Tausch PR, herb. typ. no. 11457b) [Tausch Herb. Fl. Bohem. no. 1804]; “Theising” (1812 Tausch PR, herb. typ. no. 11457c); “In Teichen by Tepl, Teising und Böhmisch Aicha” (1819 [scriptis] Opiz PR, herb. typ. no. 11454b); “In stagnis ad Teplam (Konrad), Teising (Tausch), Český Dub (Opiz); Teplam et Cheby etc.” (1810 [scriptis C. B. Presl] PRC, herb. typ. no. 932); “In rivuli ad Theisingam” (s. d. [Tausch] PRC, herb. typ. no. 933); specimina authentica cetera: s. loc. [Český Dub] (1819 Opiz PR, herb. typ. no. 11454c); “Böhmisch Aicha” [= Český Dub] (1819 Opiz PR, herb. typ. no. 11454d); “Bey Böhmisch Aicha ... in Teichen” (s. d. Opiz PRC, herb. typ. no. 934); “Böhmisch Aicha” (s. d. Opiz PRC, herb. typ. no. 935); Bei Böhmisch Aicha (s. d. Opiz BRNM).

All the authentic specimens (the lectotype plant is shown in Fig. 6) and the original description of *P. purpurascens* relate to *P. alpinus* Balb., a species described a few years earlier. The original description mentioned is as follows: “251. *P. purpurascens*, R. čerwenawý, fol. superioribus coriaceis elliptico-lanceolatis, petiolo pedunculis terminalibus axillaribusque brevioribus, inferioribus lanceolatis membranaceis breviter petiolatis. *Stagna: Český Dub*. Oc., *Teisbing*. Th., *Teplá*, *Cheby*. – *Purpurascens*.”. The topographical name “*Teisbing*” is corrected in the end of the book in the part *Addenda et corrigenda* to “*Taužim C. Plz.*”. The village name *Český Dub* corresponds with its German equivalent *Böhmisch Aicha* given on certain isolectotype specimens.

5. *P. pusillus* [var.] β *interruptus* (Kit. in Schult.) J. S. Presl et C. B. Presl, Fl. Čech. 37. 1819. [= *P. pectinatus* L.]

The name is based on *P. interruptus* Kit. in Schult., Österr. Fl. ed. 2. 1: 328. 1814.

According to its original description, the basionym of the Presls' combination relates to *P. pectinatus* with an interrupted spike. The name *P. interruptus* Kit. has been generally synonymized with the latter species (e. g. by Chamisso 1815, Chamisso et Schlechtendahl 1827, Fieber 1838, Berchtold et Fieber 1838, Bennett 1891b, St. John 1916, Hagström 1916: 39, Dandy 1937, 1958) or treated as a variety or a form of that species (Ascherson et Graebner 1897, Fischer 1907, Hagström 1916: 48).

However, the brothers J. S. Presl and C. B. Presl misapplied Kitaibel's name for another quite distinct and unrelated species now called *P. friesii*. A herbarium sheet deposited in PRC and bearing that species is designated by C. B. Presl as *P. interruptus*. When the Presls prepared their Flora they therefore erroneously adopted the name for a variety of *P. pusillus*.

Later the Presls' Flora and the mentioned specimen were studied by Bennett and the name was subsequently (Bennett 1890) questionably synonymized with *P. friesii*. However, Bennett used an incorrect reference to the non-existing name “*P. pusillus* L., var. *interruptus* Schul. Oest. Fl. ed. 2. (1814).”. Even though Bennett himself corrected the error “due to a dangerous practice of reliance on a quoted opinion” (Bennett 1891b), the citation of the name has been adopted by Ascherson et Graebner (1897), Graebner (1907), Rouy (1912),

Hagström (1916) and several other authors. Even though in contemporary taxonomy the name *P. pusillus* var. *interruptus* is meaningless, its authorship has to be ascribed to J. S. Presl and C. B. Presl with the correct citation given above.

6. *P. petiolaris* C. B. Presl in J. S. Presl et C. B. Presl, Delic. Prag. 151. 1822 (“petiolare”), nom. illeg., non Raf., Med. Repos., Hexade 3, 2: 409. 1811.

≡ *P. natans* subsp. *petiolaris* “C. B. Presl” ex Arcang., Comp. Fl. Ital. ed. 2. 99. 1894.

≡ *P. fluitans* proles *petiolaris* “C. B. Presl” ex Graebner in Engler, Pflanzenr. 31 (IV.11): 59. 1907.

[= *P. nodosus* Poir.]

Typi: **lectotypus hoc loco electus**: s. loc. (s. d. [C. B. Presl] PRC, herb. typ. no. 924).

The species has been described from Sicily, Italy (Presl C. B. 1822). There is no locality given on the lectotype specimen (Fig. 7) but its authenticity is certain. A part of an original description is handwritten by C. B. Presl himself on a small herbarium label: “*Potamogeton petiolare* Prsl. fol. ellipticis utrinque acutis multinerviis, petiolis folium aequantibus, spicis cylindricis...”.

The specimen was already revised by two *Potamogeton* specialists. In 1888 it was seen by A. Bennett, who determined it as *P. fluitans* Roth on the herbarium label and later stated (Bennett 1892): “This must be referred to *fluitans* Auct.”. In 1903 the plant was studied by G. Fischer. He attached a large label to the herbarium sheet on which he noted both his morphological and anatomical analysis of the plant. He came to the conclusion that “*P. petiolaris* Presl ist specifisch nicht verschieden von *P. fluitans* Roth. Vorliegende Pflanze kann ich höchstens als Lokal-Varietät des vulgären *P. fluitans* ansehen.”. I agree with the judgements of both botanists and consider the original specimen to be *P. nodosus* Poir. [= *P. fluitans* auct.].

7. *P. montanus* C. B. Presl, Reliq. Haenk. 1/2: 85. 1827. (“montanum”)

[= *P. cf. linguatus* Hagström]

No authentic specimen has been found in the herbaria studied and the interpretation of the name is therefore uncertain. It cannot be excluded that type specimen has been lost or sold after Presl’s death (cf. Skočdoplová 1996). Because the original paper (Presl C. B. 1827) is probably not commonly available I have included the relevant protologue here:

Potamogeton montanum Presl.

P. foliis natantibus ovali-ellipticis utrinque obtusis multinerviis coriaceis, vaginis petiolo aequilongis, pedunculis incrassatis, nucibus angulatis.

Hab. in montanis Chilensisibus.

Caulis teres? glaber. Folia superiora opposita, natantia, coriacea, supra nitida, 16–18 lineas longa, 10 lata, 14-nervia, petiolo 12–15 lineas longo. Vaginae lineari-lanceolatae longitudine petioli aut parum longiores. Pedunculi axillares solitarii crassi petiolo duplo longiores. Spadix pollicaris cylindricus. Flores videntur fuisse fusco-purpurei. Noces tres abortientes, quarta obovata compressa, quadrangula, diametro scalo, angulis crenatis.

Valde affine P. natanti, sed multo minus; dein differt longitudine petiolorum vaginarum et pedunculorum, forma foliorum et nucibus.

The name later appeared in the literature of only a few authors. At first it was mentioned by Graebner (1907) who doubtfully adopted it in synonymy of *P. fluitans* subsp. *americanus*. Hagström (1916) questionably synonymized it with *P. mexicanus* on p. 165, but treated it as acknowledged species on p. 273. Ogden (1943) just slightly modified

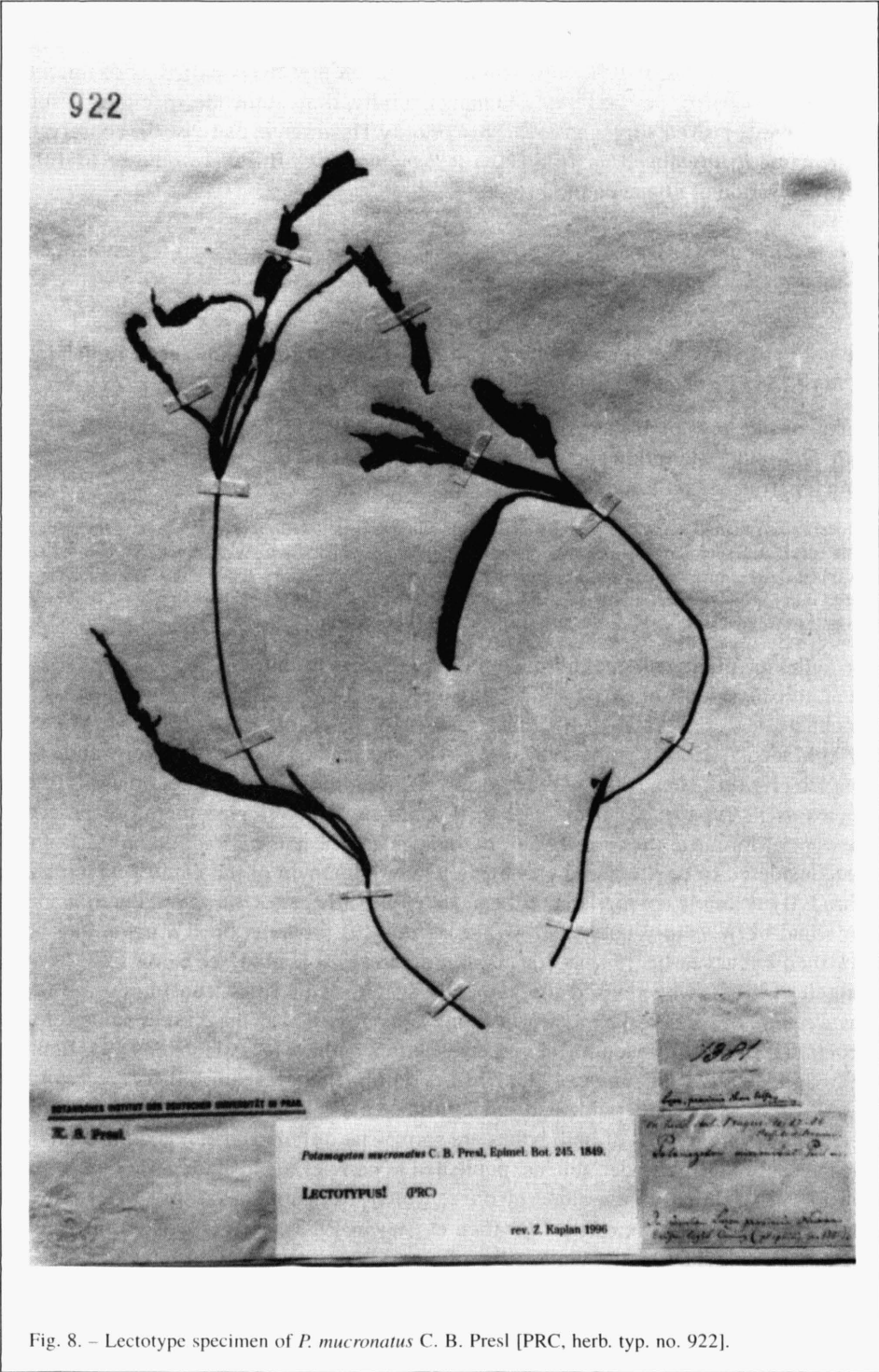


Fig. 8. – Lectotype specimen of *P. mucronatus* C. B. Presl [PRC, herb. typ. no. 922].

Graebner's opinion and considered it as a doubtful synonym of *P. nodosus* in a broad sense. Even though the description of *P. montanus* is very scarce it most certainly does not refer to *P. nodosus*. It is most similar to a taxon nowadays called as *P. linguatus* Hagström (Wiegleb, pers. comm.). Nomenclaturally, if an authentic specimen is found and its identity proved, the name could have priority. However, in that case the conservation of the name *P. linguatus* Hagström against *P. montanus* C. B. Presl would be useful for the preservation of nomenclatural stability.

8. *P. mucronatus* C. B. Presl, Epimel. Bot. 245. 1851. ("1849"), nom. illeg., non Schrad. ex Sonder, Fl. Hamburg. 99. 1850. ("1851")
[= *P. wrightii* Morong]

Typus: **lectotypus hoc loco electus**: "In insulae Luzon provincia Nueva Ecija" (s. d. Cuming 1381 PRC, herb. typ. no. 922).

The name has been published with a very comprehensive protologue (Presl C. B. 1851). Both very long description and diagnosis accompanied the new name and therefore only a small part of the protologue is repeated here:

POTAMOGETON MUCRONATUS: caule gracili tereti, foliis submersis petiolatis lineari-lanceolatis linearibusque acutis cuspidato-mucronatis membranaceis transparentibus novemnerviis transverse venosis margine undulato-crispis basi obtusis, superioribus oppositis, petiolis simplicibus, stipulis acuminatis, pedunculis alaribus petiolo duplo triplove longioribus erectis, spicis cylindricis, floribus verticillato-glomeratis.
Habitat in insulae Luzon provincia Nueva Ecija (Cuming pl. phil. n. 1381).

The authentic plant gathered in Luzon, Phillipines, has been found in PRC (Fig. 8). It is taxonomically identical with the East Asian plants widely called *P. malaianus* (e. g. by Graebner 1907, Guo et al. 1985, Hagström 1916, Juzepčuk 1934, Ka 1984, Ma et al. 1983, Macenko 1971, Cvelev 1987, etc.). The species has been extensively studied by Wiegleb (1990b). He has found that the name *P. malaianus* Miq. cannot be used for this species as its type material belongs to *P. nodosus* Poir. Wiegleb therefore proposed *P. wrightii* Morong as the correct name of the species. The name *P. mucronatus* C. B. Presl was considered to be illegitimate as being a later homonym of the name *P. mucronatus* Schrad. By a simple comparison of the years on the title pages, however, the Schrader's name had been validly published as late as in 1851 whereas Presl's name had been published 2 years earlier [discussion about *P. mucronatus* Schrad. see below by *P. friesii*]. Bennett (1891a), who revised the authentic specimen in 1888, considered the name *P. mucronatus* C. B. Presl as the earliest one and adopted it as the correct name for that species. The name has been further used by certain authors (e. g. Hooker 1894, Bennett 1895, Bennett 1904, Chai-anan 1985, Khan et Halim 1989). It seemed that *P. mucronatus* C. B. Presl is, as a validly published and legitimate name, available for use. However, the precise publication dates of both books are somewhat different than it is quoted on their title pages. In fact, Schrader's name, published as early as in November 1850 (Stafleu et Cowan 1985), preceded the name of Presl, which was published "in October 1851 or somewhat, but not much, earlier" (Stafleu et Cowan 1983). That is why *P. mucronatus* C. B. Presl, as a later homonym and therefore an illegitimate name, cannot be used for the species concerned and Wiegleb's selection of the name *P. wrightii* Morong should be adopted.

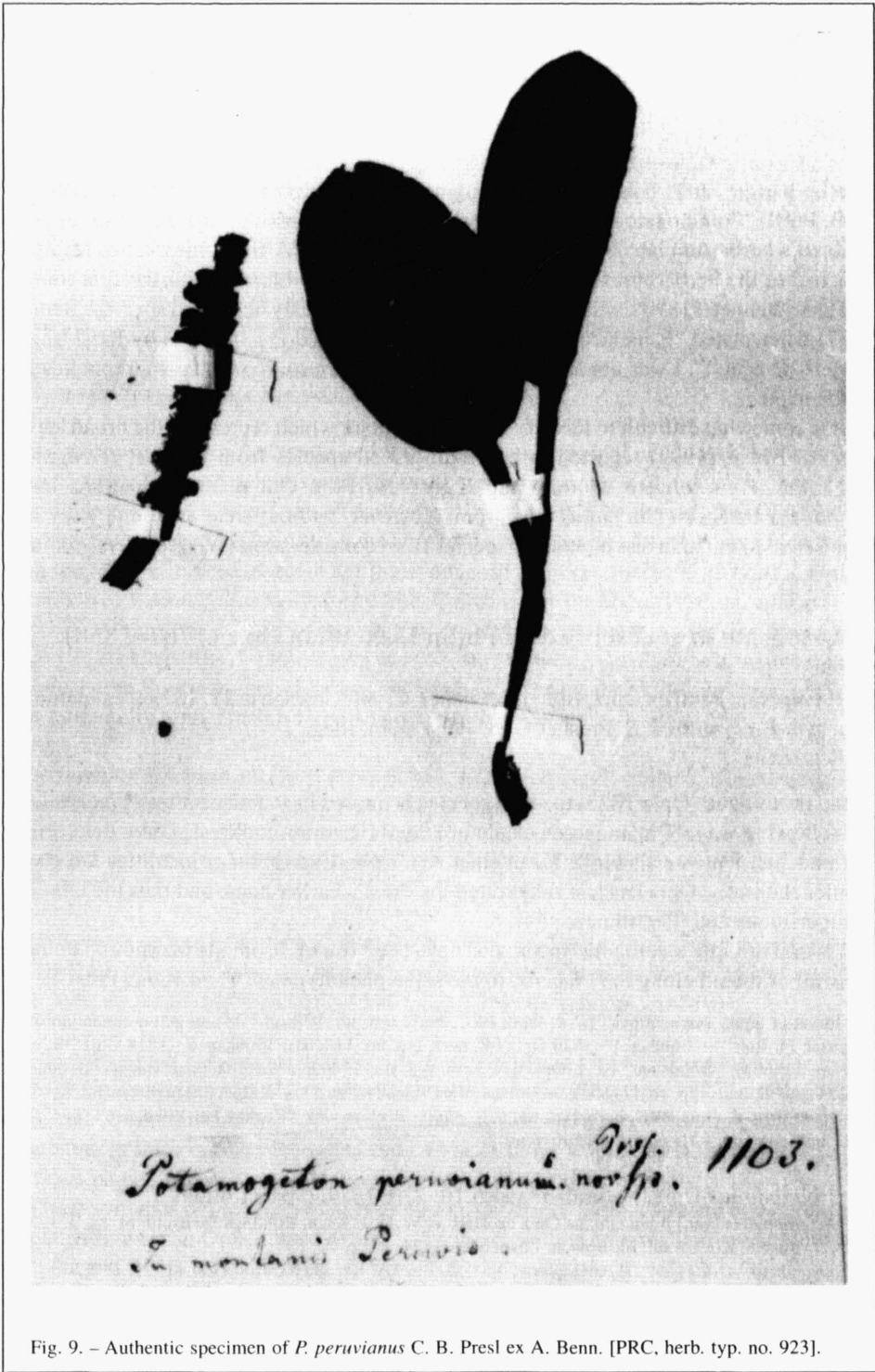


Fig. 9. – Authentic specimen of *P. peruvianus* C. B. Presl ex A. Benn. [PRC, herb. typ. no. 923].

9. *P. peruvianus* C. B. Presl ex A. Benn., J. Bot. 28: 298. 1890 (“peruviana”), pro syn. *P. mexicanus*, nom. inval.

[= *P. nodosus* Poir. or *P. linguatus* Hagström]

Specimen authenticum: “In montanis Peruvia” (s. d. [Haenke?] 1103 PRC, herb. typ. no. 923).

The herbarium sheet bears two plant fragments and a herbarium label handwritten by C. B. Presl: “Potamogeton peruvianus Prsl. nov. sp., In montanis Peruvia.” (Fig. 9). Also Bennett’s herbarium label with note “*P. peruvianus* Presl, ?Affin. *P. mexicanus* Mihi!” is attached to the herbarium sheet. The name appears in the literature for the first time as late as in Bennett (1890), where he referred it to his previously described species (Bennett 1887) when stated “*P. mexicanus* Ar. Benn. ... was named *P. peruviana* by Presl (ined.) in Herb. Prague!”. I was not able to locate any literature source with a valid publication of the name.

It is somewhat difficult to identify the original plant which represents the broad leaved species. Brako (1993) reported three broad leaved species from Peru: *P. ferrugineus* Hagström, *P. illinoiensis* Morong and *P. nodosus* Poir. Our plant is most similar to *P. nodosus* Poir. or *P. linguatus* Hagström. However, without stem anatomy study it is impossible to exclude one or another species from consideration (Wiegleb pers. comm.).

Potamogeton taxa described by Philip Maximilian Opiz (1787–1858)

1. *P. caudatus* Seidl ex Opiz, Böheims Phäner. Crypt. Gewächse 23. 1823 (“caudatum”), cum syn. *P. cornutus* J. S. Presl et C. B. Presl, nom. illeg.

[= *P. lucens* L.]

In the protologue (Opiz 1823) the new species is quoted in sequence after *P. lucens* L. in the following way: “Potamogeton caudatum Seidl (*P. cornutum* Presl) Unter der vorigen Art und sicher nichts als bloße Form einer Art.”. No description or localities are given. Nomenclaturally, Opiz has just substituted the Presl’s earlier name and thus the later one is superfluous and illegitimate.

Several of Opiz’s authentic specimens have been found. From the taxonomic point of view all of them belong to *P. lucens*, to the same phenotype as “*P. cornutus* Presl”:

“In fossis et aquis stagnantibus” (s. d. Opiz PRC, herb. typ. no. 929, ut “Potamogeton caudatum Seidl Manuscr. Fl. Boh.”); “Bohdaneč” (1820 Opiz PR, herb. typ. no. 11460a); “Bohdaneč” (1818 Opiz PR, herb. typ. no. 11460b); “Bohdaneč” (s. d. Opiz PR, herb. typ. no. 11460c); “in Bohemiae stagnis. Bohdaneč” (1820 Opiz PR, herb. typ. no. 11460d); “b. Bohdaneč im Teiche Rozkož” (s. d. Opiz PR, herb. typ. no. 11460e); “Bohdaneč” (s. d. Opiz PRC, herb. typ. no. 930, *planta dextrorsum*); “Rozkož bei Bohdaneč” (s. d. Opiz PRC, herb. typ. no. 931, *planta sinistrorsum*).

2. *P. paucifolius* Opiz, Naturalientausch 10: 223. 1824. (“paucifolium”)

≡ *P. heterophyllus* [var.] β *paucifolius* Opiz ex Mert. et W. D. J. Koch, Röhlings Deutschl. Fl. ed. 3. 1: 844. 1823; Kostel., Clav. Anal. Fl. Bohem. Phaner. 24. 1824.

≡ *P. gramineus* var. *lacustris* f. *paucifolius* (Opiz) G. Fischer, Ber. Bayer. Bot. Ges. 11: 71. 1907.

≡ *P. gramineus* proles *heterophyllus* var. *paucifolius* (Opiz) Graebner in Engler, Pflanzenr. 31 (IV.11): 88. 1907.

≡ *P. gramineus* var. *lacustris* subvar. *paucifolius* (Opiz) G. Fischer in E. Baumann, Veg. Untersees 94. 1911.

[= *P. gramineus* L.]

Typi: **lectotypus hoc loco electus**: “Im Teiche Rozkož bei Bohdaneč” (1804 Opiz PR, herb. typ. no. 11459a, *planta dextrorsum*); **isolectotypus**: “Bohdaneč, Bohemia” (s. d. Opiz PR, herb. typ. no. 11459b).

The first reference to the name in the literature is given in Opiz’s Supplement to Presl’s Flora (Opiz 1822) and in his own Flora (Opiz 1823) where *P. paucifolius* is reported from the vicinity of the town Pardubice but no description is given. The name has been subsequently validly published (Opiz 1824):

113) *Potamogeton paucifolium* Opiz!

foliis pellucidis, distantibus, alternis, lineari-lanceolatis, integerrimis, sessilibus, margine subundulatis, pedunculis incrassatis; *fructibus* compressis, margine obtuso, *caule* simplici. Opiz!

Auth. herb. No. 101. den 4. Oktober 1824.

P. heterophyllus paucifolius. Mertens et Koch. Flor. deut. 1. p. 844.

Im Teiche Rozkož bei Bohdaneč chrudim.

The author refers to his Authentic herbarium where the original plant has been deposited (Opiz 1826). Two herbarium specimens gathered by Opiz near Bohdaneč not far from Pardubice have been found which both correspond well with the original description. The exact wording of the locality on the herbarium label on one of the syntypes is identical with the *locus classicus* given in the protologue. In addition, Fieber (1838) cited Opiz’s specimen of *P. paucifolius* in the form: “Bei Bohdanetsch im Teiche Rozkož, um Pardubice (Opiz!)”. Therefore this herbarium specimen has been chosen as the lectotype here (Fig. 10). As Hagström (1916) already noticed, the plants of *P. paucifolius* is taxonomically identical with *P. gramineus* L. Mertens and Koch (1823) considered the duplicate specimen sent to them by Opiz himself to be a variety of this species.

3. *P. serrulatus* Schrad. ex Opiz, Flora 5: 267. 1822, nom. nud., et Opiz, Böheims Phäner. Crypt. Gewächse 23. 1823, nom. nud. (“serrulatum”)

≡ *P. crispus* f. *serrulatus* “(Schrad. ex Opiz)” ex Glück in Pascher, Süßwasserfl. Mitteleurop. 15: 50. 1936.

= *P. crispus* var. *serrulatus* Schrad. ex Reichenb., Icon. Fl. Germ. 7: 18, t. 30, Fig. 52. 1845.

[= *P. crispus* L.]

Typi: **lectotypus hoc loco electus**: “Bei Bohdaneč ... im Teiche Rozkož in wiesen Graben” (1810 Opiz PR, herb. typ. no. 11481a); **isolectotypi**: “Teich Rozkož” (1810 Opiz PR, herb. typ. no. 11481b); “Rozkož” (1810 Opiz PR, herb. typ. no. 11481c).

The history of the occurrence of the name *P. serrulatus* in Opiz’s works is similar to the story of *P. paucifolius*. Opiz has gathered it at the same locality (Opiz 1822) and deposited a voucher specimen into his Authentic herbarium (Opiz 1826). When he published the new name in his work he mentioned only an occurrence (Opiz 1823). In contrast to the previous name, the latter one has never been validly published.

Three syntypes of the name have been found. On one of them, there are two herbarium labels with notes in Opiz’s handwriting. The larger with synonymy and the smaller one with the text “102. Auth. Herb., d. 4. 8ber 1824, Potamogeton serrulatum. Opiz!” which corresponds exactly with the text describing the appropriate specimen in his Authentic herbarium (Opiz 1826). This herbarium specimen has been chosen as the lectotype (Fig. 11).

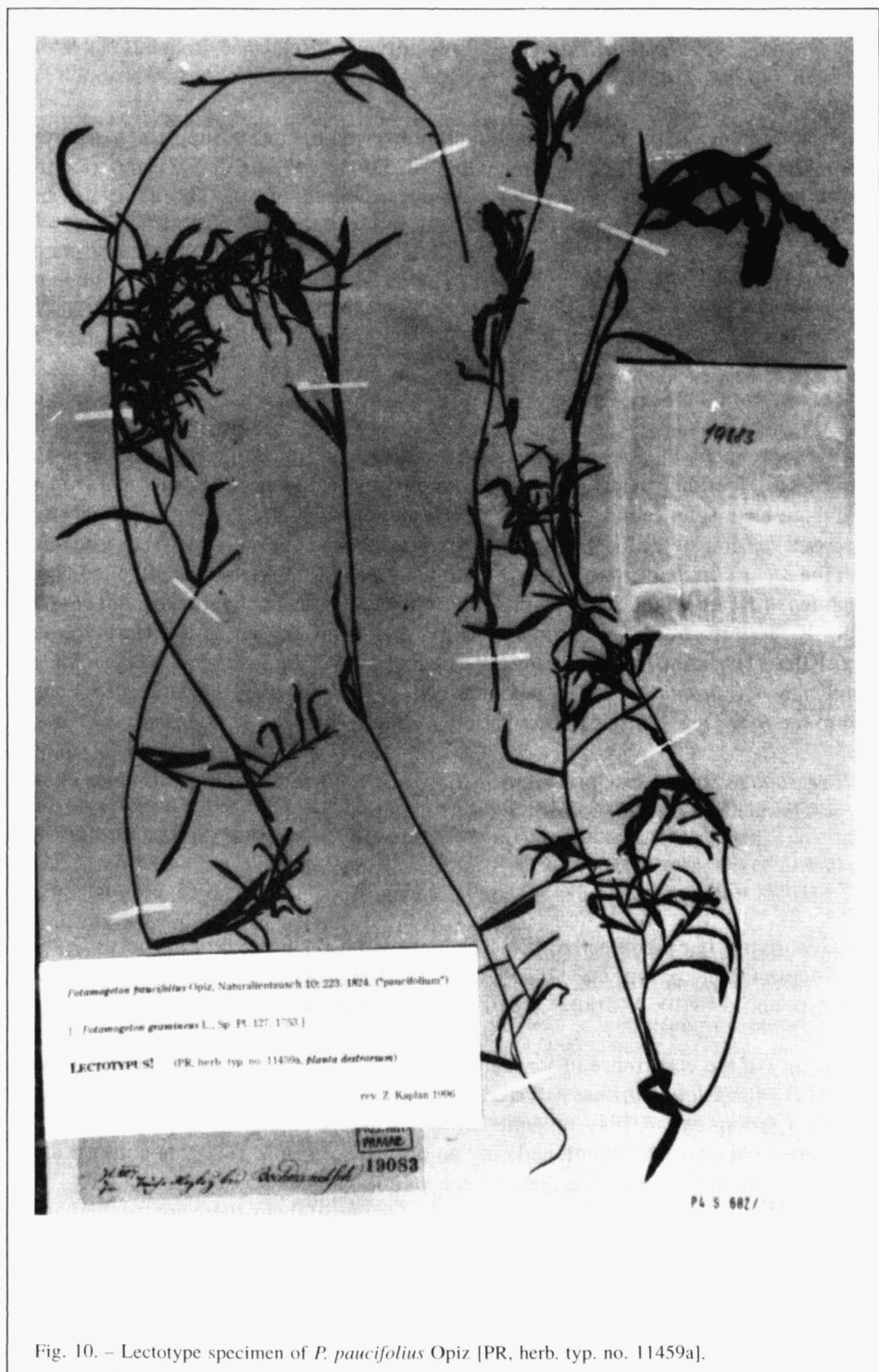


Fig. 10. – Lectotype specimen of *P. paucifolius* Opiz [PR, herb. typ. no. 11459a].

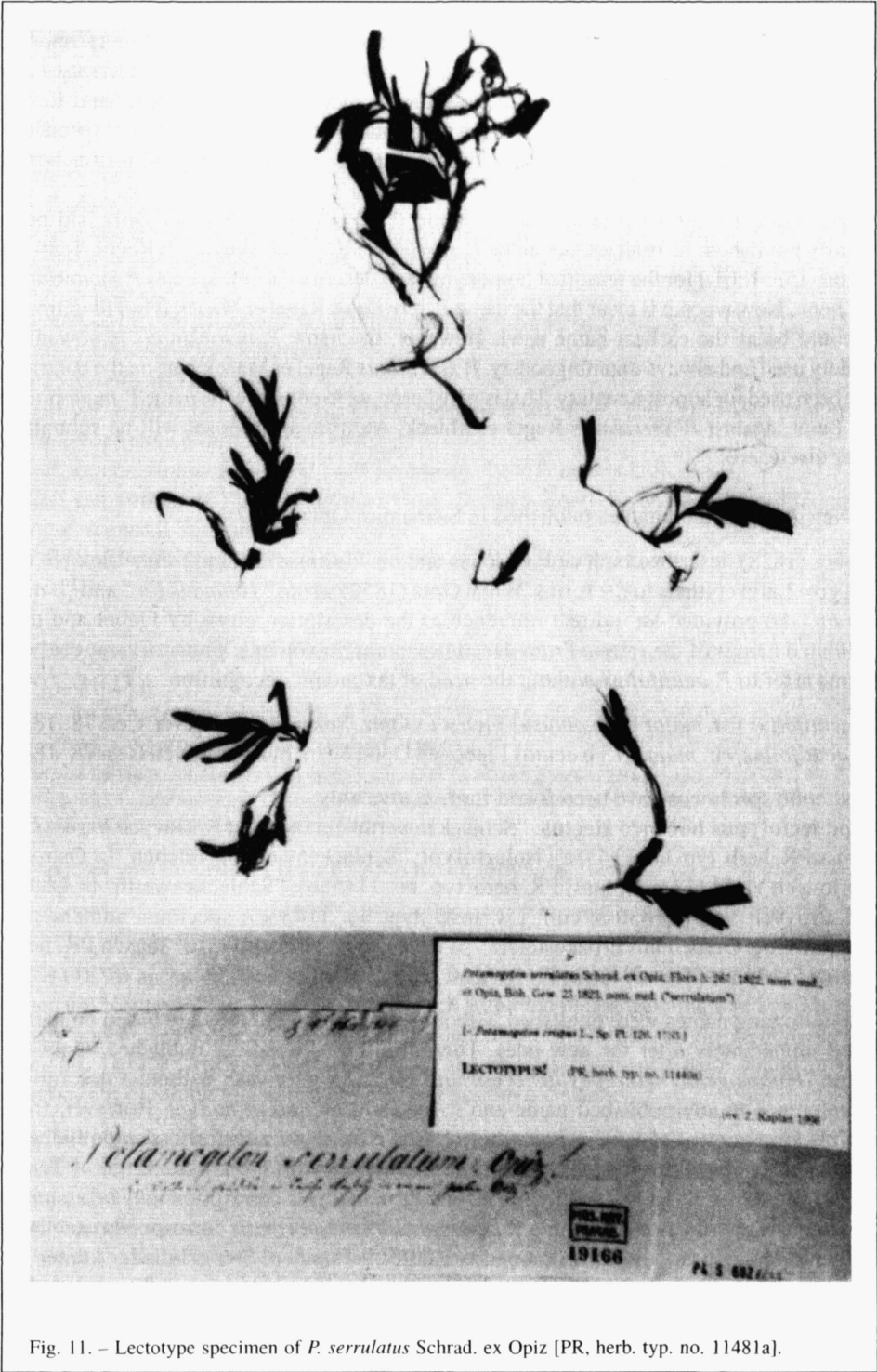


Fig. 11. – Lectotype specimen of *P. serrulatus* Schrad. ex Opiz [PR, herb. typ. no. 11481a].

All the authentic plants belong to under-developed young shoots of *P. crispus* L. with plane leaves. It is only a product of seasonal variation which does not deserve taxonomic recognition. As early as in 1838, *P. serrulatus* was synonymized with *P. crispus* (var. *vulgaris*) by Fieber, who had seen the specimens, and in his work noted “sind Keimpflanzen”. Graebner (1907) made the same note under *P. crispus* to this name: “Specimina juvenilia plantae typicae saepe formam foliorum varietatis *serrulatae* [Schr. ex Reichenb.] imitantur.”.

As Bennett (1904) believed that the name *P. serrulatus* Schrad. ex Opiz had been validly published, he rejected the name *P. serrulatus* Regel et Maack (in Regel, Tent. Fl. Ussur. 153. 1861.) for the reason of homonymy and described a new species *P. maackianus* A. Benn. Now when it is clear that the name *P. serrulatus* Regel et Maack is not illegitimate it could be as the earliest name used. However, the name *P. maackianus* is nowadays widely used and always unambiguously. *P. serrulatus* Regel et Maack has, on the contrary, not been used for almost a century. That is why I propose to conserve the name *P. maackianus* A. Benn. against *P. serrulatus* Regel et Maack. An official proposal will be submitted later elsewhere.

4. New *Potamogeton* names published in Seznam of Opiz (1852)

Fieber (1838) described both new varieties and new forms of *P. acutifolius* Link but did not give Latin epithets to the forms. When Opiz (1852) wrote “a *obtusus* Fb.” and “b *acutus* Fb.” he provided an indirect reference to the description given by Fieber and thus validated names of the forms. From the contemporary taxonomic point of view, the both forms refer to *P. acutifolius* without the need of taxonomic recognition.

P. acutifolius var. *major* [f.] a *obtusus* Fieber ex Opiz, Seznam Rostl. Květ. Čes. 78. 1852.
P. acutifolius var. *major* [f.] b *acutus* Fieber ex Opiz, Seznam Rostl. Květ. Čes. 78. 1852.

Authentic specimens have been found for f. *acutus* only:

Typi: **lectotypus hoc loco electus**: “Schlackenwerth” [= Ostrov u Karlových Varů] (s. d. Reuss PR, herb. typ. no. 11453a); **isolectotypi**: “Schlackenwerth in Teichen” [= Ostrov u Karlových Varů] (1838 R[euss] PR, herb. typ. no. 11453b); “Schlackenwerth” [= Ostrov u Karlových Varů] (1830 s. coll. PR, herb. typ. no. 11453c); specimen authenticum ceterum: “A. Gräben um Elbekosteletz” [= Kostelec nad Labem] (s. d. Tausch PR, herb. typ. no. 11453d) [Tausch Herb. Fl. Bohem. no. 1811].

The following names were published without a description but they are based on names cited immediately after the new ones. Therefore they are validly published. Only the name “*Potamogeton heterophyllus* α *normalis* O.” was published without a description or reference to any published name and it seems to be *nomen nudum*. However, from Opiz’s arrangement of taxa in *Potamogeton* it is clear that he entirely adopted Fieber’s system of infraspecific taxa. Therefore, in accordance with the article 32. 5. of Tokyo Code (Greuter et al. 1994), an implicit reference to Fieber’s description may be assumed when this is appropriate. The name *P. heterophyllus* var. *normalis* corresponds exactly to Fieber’s description “die schwimmenden Blätter vorhanden, Stengelglieder kürzer als die Blätter.” Opiz most probably wanted to express that he meant the true *P. heterophyllus* (a heterophyllous phenotype of *P. gramineus* L.) which he also established by the Czech equivalent of epithet “řádný” [= genuine]. The name *P. heterophyllus* itself was adopted

in synonymy of *P. heterophyllus* var. *normalis* f. *foliosus*. Thus, though the interpretation of the name is based on a previously published description, the name *P. heterophyllus* var. *normalis* is nevertheless not validly published because Opiz intended to indicate the taxon contains the type of the species. The same is true for *P. heterophyllus* var. *normalis* f. *foliosus*.

P. heterophyllus [var.] α *normalis* Opiz, Seznam Rostl. Květ. Čes. 77. 1852, nom. inval.
[= *P. gramineus* L.]

P. heterophyllus var. *normalis* [f.] α *foliosus* Opiz, Seznam Rostl. Květ. Čes. 77. 1852, cum syn. *P. heterophyllus* Schreb., nom. inval.
[= *P. gramineus* L.]

P. heterophyllus var. *normalis* [f.] β *elongatus* Opiz, Seznam Rostl. Květ. Čes. 77. 1852, cum syn. *P. distachyum* Bellardi.
[= *P. gramineus* L.]

P. Zizii var. *validus* [f.] α *coriaceus* Opiz, Seznam Rostl. Květ. Čes. 78. 1852, cum syn. *P. heterophyllus* δ *latifolius* M. et K.
[= *P. xangustifolius* J. S. Presl (= *P. gramineus* L. $\times$ *P. lucens* L.)]

P. Zizii var. *validus* [f.] β *angustifolius* Opiz, Seznam Rostl. Květ. Čes. 78. 1852, cum syn. *P. lucens* β *foliis angustioribus* Pohl.
[= *P. xangustifolius* J. S. Presl (= *P. gramineus* L. $\times$ *P. lucens* L.)]

Potamogeton condylocarpus described by Ignaz Friedrich Tausch (1793–1848)

P. condylocarpus Tausch, Flora 19: 423. 1836.

$\equiv$ *P. trichoides* var. *condylocarpus* (Tausch) Aschers. et Graebner, Synops. Mitteleurop. Fl. 1: 347. 1897.

$\equiv$ *P. trichoides* f. *condylocarpus* (Tausch) Glück in Pascher, Süßwasserfl. Mitteleurop. 15: 61. 1936.

[= *P. trichoides* Cham. et Schlechtend.]

The species was described (Tausch 1836) in the following form:

Potamogeton condylocarpus Tausch: foliis lineari-setaceis l-nerviis basi stipularis, spica pauciflora, fructibus verrucoso-3-carinatis. Habitat in fossis stagnantibus Bohemiae.

Fieber (1838) accepted the species and cited its single locality “In Bächen und Wassergräben um Königsaal” [= Zbraslav] from which authentic plants were gathered by Tausch himself and subsequently edited in his exsiccate collection *Herbarium florae bohemicae* under no. 1812 c. Altogether 4 syntypes of the species concerned were found in the herbaria, out of which the lectotype (Fig. 12) has been chosen:

Typi: **lectotypus hoc loco electus**: “Bohem.” (s. d. s. coll. PR, herb. typ. no. 11471a); specimina authentica cetera (verisimiliter isolectotypi): “A. Gräben u. Königsaal” [= Zbraslav] (s. d. Tausch PR, herb. typ. no. 11471b) [Tausch Herb. Fl. Bohem. no. 1812c.]; “Platzen um Königsaal” (s. d. Tausch PR, herb. typ. no. 11470) [Tausch Herb. Fl. Bohem. no. 1812c.]; “Koenigsaal” (s. d. s. coll. PRC, herb. typ. no. 945).

From the taxonomic point of view, the plants refer to *P. trichoides* and represent extreme forms of common variation range without the need of taxonomic recognition.

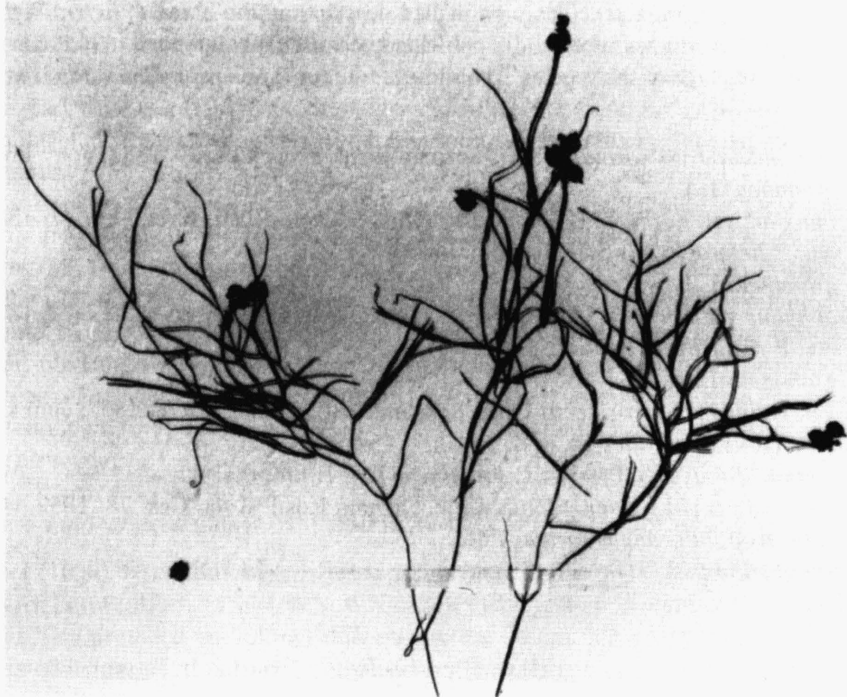


Fig. 12. – Lectotype specimen of *P. condylocarpus* Tausch [PR, herb. typ. no. 11471a].

New *Potamogeton* names published by Franz Xaver Fieber (1807–1872)

Fieber described or combined all of his 42 new names in *Oekonomisch-technische Flora Böhmens* edited by B. W. Berchtold and P. M. Opiz (Fieber 1838). In the same year a separate reprint of this Fieber's treatment on *Potamogeton* was published (Berchtold et Fieber 1838) without any change in the text. However, pagination begins with "1" on the title page and 3 additional pages of tables showing diagnostic features are appended at the end of the reprint.

It is necessary to describe Fieber's method of working for the correct detection of his authentic specimens. When working on his treatment on *Potamogeton*, Fieber had studied all available herbarium specimens relating to this genus, present at that time in institutions in Prague. There is really only a few specimens now deposited in PR, collected in Bohemia before the year of publication of Fieber's treatment in 1838 and simultaneously not cited by Fieber in his work under a corresponding taxon. He also often cited some of Tausch's authentic numbered specimens from his exsiccate collection *Herbarium florum bohemicarum*. These specimens, with numbered miniature labels attached to each single stem, have been found also in PR. All the specimens cited by Fieber and now deposited in PR and PRC are therefore considered to be authentic in spite of the fact that none of them is signed by him. Fieber therefore never made notices on herbarium sheets. Moreover, some of them have been designated with Hofmann's notes (often "Von Fieber selbst bestimmt") which prove the immediate relation of the specimens to Fieber's taxa.

Altogether 68 authentic specimens relating to the 19 new names have been found. Fieber cited all of them in corresponding protologues in the form of enumeration of localities followed by the name of botanist collecting the plant in brackets. As Fieber usually cited specimens for the final epithet only, several varieties names cannot be typified.

Fieber's infraspecific taxa are a typical example of an artificial approach to taxonomy. His taxa represent mere extreme morphotypes of common variation range or in certain cases ecomorphoses. All phenotypes are often divided into two extreme polarized groups consequently named *major* and *minor*, *acutifolius* and *obtusifolius*, or, *angustifolius* and *latifolius*. No taxon among his infraspecific "taxa" was found deserving real taxonomic justification. For that reason they are treated as synonyms of corresponding species here, unless stated otherwise.

1. *P. densus* [var.] α *rigidus* Opiz ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 250. 1838, et Opiz ex Fieber in Bercht. et Fieber, Potam. Böhmens 13. 1838.
 $\equiv$ *P. densus* f. *rigidus* (Opiz) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 227. 1936.
 [= *Groenlandia densa* (L.) Fourr.]

Typus: **lectotypus hoc loco electus**: "Wächst in den Gräben auf wiesen um die dreifaltigkeit bei Pardubitz" [= Pardubice] (1818 Opiz PR, herb. typ. no. 11477a).

2. *P. densus* [var.] β *laxus* Opiz ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 250. 1838, et Opiz ex Fieber in Bercht. et Fieber, Potam. Böhmens 13. 1838.
 $\equiv$ *P. densus* f. *laxus* (Opiz) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 227. 1936.
 [= *Groenlandia densa* (L.) Fourr.]

Typi: **lectotypus hoc loco electus**: "Teich um Bohdanetsch" [= Bohdaneč] (s. d. Tausch PR, herb. typ. no. 11477b) [Tausch Herb. Fl. Bohem. no. 1810]; **isolectotypus**: "A. Teichen b. Bohdanetz" (s. d. Tausch PR, herb. typ. no. 11477c) [Tausch Herb. Fl. Bohem. no. 1810].

3. *P. perfoliatus* [var.] α *ovalifolius* Mert. et W. D. J. Koch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 251. 1838, nom. illeg., et Mert. et W. D. J. Koch ex Fieber in Bercht. et Fieber, Potam. Böhmens 14. 1838, nom. illeg., non *P. perfoliatus* [var.] α *ovatifolius* Wallr., Sched. Crit. 1: 66. 1822.

Typi: **lectotypus hoc loco electus**: "A. Gräben um Stephansüberfuhr" [prope Neratovice] (s. d. Tausch PR, herb. typ. no. 11467a) [Tausch Herb. Fl. Bohem. no. 1809]; **isolectotypus**: "A. Gräben um Stephansüberfuhr" [prope Neratovice] (s. d. Tausch PR, herb. typ. no. 11467b) [Tausch Herb. Fl. Bohem. no. 1809]; specimen authenticum ceterum: "In aquis stagnantibus Albis ad Litoměřice" (1810 [C. B. Presl] PRC, herb. typ. no. 944).

4. *P. perfoliatus* [var.] β *cordato-lanceolatus* Mert. et W. D. J. Koch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 251. 1838, et Mert. et W. D. J. Koch ex Fieber in Bercht. et Fieber, Potam. Böhmens 14. 1838.

Typus: **lectotypus hoc loco electus**: "Hamerteich b. Niemes" [= Mimoň] (s. d. Lorinser PR, herb. typ. no. 11466).

5. *P. perfoliatus* [var.] γ *rotundifolius* Mert. et W. D. J. Koch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 251. 1838, nom. illeg., et Mert. et W. D. J. Koch ex

Fieber in Bercht. et Fieber, Potam. Böhmens 14. 1838, nom. illeg., non *P. perfoliatus* [var.] β *rotundifolius* Wallr., Sched. Crit. 1: 67. 1822.

Typus: **lectotypus hoc loco electus**: “Poděbrad” [= Poděbrady] (1833 Opiz PR, herb. typ. no. 11468).

6. *P. purpurascens* [var.] α *vulgaris* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 253. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 16. 1838.

$\equiv$ *P. alpinus* [var.] α *vulgaris* (Fieber) G. Fischer, Ber. Bayer. Bot. Ges. 11: 45. 1907.

Typi: **lectotypus hoc loco electus**: “Gräben um Theising” [= Toužim] (s. d. [Tausch] PR, herb. typ. no. 11457a) [Tausch Herb. Fl. Bohem. no. 1804]; **isolectotypi**: “Gräben b. Theising” [= Toužim] (s. d. Tausch PR, herb. typ. no. 11457b) [Tausch Herb. Fl. Bohem. no. 1804]; “Theising” (1812 Tausch PR, herb. typ. no. 11457c); “In rivuli ad Theisingam” (s. d. [Tausch] PRC, herb. typ. no. 933); specimina authentica cetera: “Böhmisch Aicha” [= Český Dub] (1819 Opiz PR, herb. typ. no. 11454d); “Bey Böhmisch Aicha ... in Teichen” (s. d. Opiz PRC, herb. typ. no. 934); “Böhmisch aicha” (s. d. Opiz PRC, herb. typ. no. 935); Bei Böhmisch aicha (s. d. Opiz BRNM); “Böhmisch aicha” (1819 Prochaska PR, herb. typ. no. 11454e; PRC, herb. typ. no. 936; BRNU); “In stagnis ad Teplam (Konrad), Teising (Tausch), Český Dub (Opiz); Teplam et Cheby etc.” (1810 [scripsit C. B. Presl] PRC, herb. typ. no. 932).

7. *P. purpurascens* [var.] β *angustifolius* Tausch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 254. 1838, et Tausch ex Fieber, Potam. Böhmens 17. 1838. [based on specimen *P. rufescens* β *angustifolia* Tausch, Herb. Fl. Bohem., no. 1804b]

$\equiv$ *P. rufescens* [var.] β *angustifolius* Tausch ex Fieber in Bercht. et Opiz Oekon.-Techn. Fl. Böhmens 2/1: 254. 1838, pro syn., nom. inval., et Tausch ex Fieber in Bercht. et Fieber, Potam. Böhmens 17. 1838, pro syn., nom. inval.

$\equiv$ *P. alpinus* var. *angustifolius* (Tausch ex Fieber) Aschers. et Graebner, Synops. Mitteleurop. Fl. 1: 311. 1897.

$\equiv$ *P. alpinus* f. *angustifolius* (Tausch ex Fieber) G. Fischer, Ber. Bayer. Bot. Ges. 11: 45. 1907.

Typi: **lectotypus hoc loco electus**: “Gräben um Habstein” [= Jestřebí] (s. d. Tausch PR, herb. typ. no. 11456a) [Tausch Herb. Fl. Bohem. no. 1804b.]; **isolectotypi**: [“Gräben um Habstein”] (s. d. Tausch PR, herb. typ. no. 11456b) [Tausch Herb. Fl. Bohem. no. 1804b.]; “Gräben u. Habstein” (s. d. Tausch PR, herb. typ. no. 11455) [Tausch Herb. Fl. Bohem. no. 1804b.].

8. *P. purpurascens* [var.] γ *lanceolatus* (G. F. W. Meyer) Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 254. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 17. 1838.

The name is based on *P. rufescens* [var.] (“spielart”) a. *lanceolatus* G. F. W. Meyer, Chloris Hanov. 522. 1836.

$\equiv$ *P. rufescens* [var.] γ *submersus* Tausch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 254. 1838, pro syn., nom. inval., et Fieber in Bercht. et Fieber, Potam. Böhmens 17. 1838, pro syn. *P. purpurascens* [var.] γ *lanceolati* (G. F. W. Meyer) Fieber, nom. inval.

Specimina authentica: “A. d. Iserflusse” [= the Jizera river] (s. d. Tausch PR, herb. typ. no. 11458a et no. 11458b) [Tausch Herb. Fl. Bohem. no. 1807].

The following specimens have been named by Fieber (1838) simultaneously as *P. purpurascens* [var.] β *angustifolius* Tausch ex Fieber (*P. rufescens* var. β *angustifolius* Tausch ex Fieber, pro syn.) and as *P. purpurascens* [var.] γ *lanceolatus* (G. F. W. Meyer) Fieber (*P. rufescens* [var.] γ *submersus* Tausch ex Fieber, pro syn.):

“Schlackenwerth” [= Ostrov u Karlových Varů] (s. d. Reuss PR, herb. typ. no. 11458c); “Im Silberbache bei Schluckenau” [= Šluknov] (s. d. Karl PR, herb. typ. no. 11458d, no. 11458e et no. 11458g; PRC, herb. typ. no. 937 et no. 938); “Schluckenau” [= Šluknov] (s. d. Karl PR, herb. typ. no. 11458h; BRNM); “In rivulis aequi Teplensis” [= Teplá] (1807 Konrad PR, herb. typ. no. 11458f).

9. *P. oblongus* [var.] α *ovato-oblongus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 257. 1838, nom. inval., et Fieber in Bercht. et Fieber, Potam. Böhmens 20. 1838, nom. inval.

≡ *P. polygonifolius* var. *ovato-oblongus* Fieber ex G. Fischer, Ber. Bayer. Bot. Ges. 11: 40. 1907.

≡ *P. polygonifolius* f. *ovato-oblongus* Fieber ex Glück in Pascher, Süßwasserflora 15: 40. 1936.

The name is based on *P. oblongus* Viv., Ann. Bot. 1/2: 102. 1802. No specimen is cited.

10. *P. oblongus* [var.] β *cordifolius* (Cham. et Schlechtend.) Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 257. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 20. 1838.

The name is based on *P. oblongus* f. *cordifolius* Cham. et Schlechtend., Linnaea 2: 215. 1827.

11. *P. oblongus* [var.] γ *lancifolius* (Cham. et Schlechtend.) Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 257. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 20. 1838.

The name is based on *P. oblongus* f. *lancifolius* Cham. et Schlechtend., Linnaea 2: 215. 1827.

12. *P. natans* [var.] β *ovalifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 260. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 23. 1838.

≡ *P. natans* var. *prolixus* subvar. *ovalifolius* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 7(1934): 140. 1934.

No authentic specimen has been found in the herbaria studied.

13. *P. natans* [var.] γ *lancifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 260. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 23. 1838.

≡ *P. natans* var. *prolixus* f. *lancifolius* (Fieber) G. Fischer, Ber. Bayer. Bot. Ges. 11: 37. 1907.

No authentic specimen has been found in the herbaria studied.

14. *P. zizii* [var.] α *validus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 263. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 26. 1838.

[= *P. xangustifolius* J. S. Presl]

Typi: **lectotypus hoc loco electus**: “Landskron” [= Lanškroun] (1819 Steinmann PR, herb. typ. no. 11480a); specimen authenticum ceterum: “Bohdaneč” (1806 Opiz PR, herb. typ. no. 11480b).

15. *P. zizii* [var.] β *elongatus* (Mert. et W. D. J. Koch) Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 264. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 27. 1838.
[= *P. xangustifolius* J. S. Presl]

The name is based on *P. heterophyllus* [var.] γ . *elongatus* Mert. et W. D. J. Koch, Röhrlings Deutschl. Fl. ed. 3. 1: 845. 1823.

16. *P. nitens* [var.] α *latifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 267. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 30. 1838.
= *P. nitens* var. *lacustris* subvar. *latifolius* (Fieber) Ascherson et Graebner, Syn. Mitteleurop. Fl. 1: 326. 1897.

No authentic specimen has been found in the herbaria studied.

17. *P. nitens* [var.] β *angustifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 267. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 30. 1838.
= *P. nitens* var. *lacustris* subvar. *angustifolius* (Fieber) Ascherson et Graebner, Syn. Mitteleurop. Fl. 1: 326. 1897.

Typus: **lectotypus hoc loco electus**: “Rozkož bei Bohdaneč” (s. d. Opiz PRC, herb. typ. no. 939).

18. *P. crispus* [var.] α *acutifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 269. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 32. 1838.
= *P. crispus* f. *acutifolius* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 225. 1936.

No specimen is cited in the protologue.

19. *P. crispus* var. *acutifolius* [f.] a. *vulgaris* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 269. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 32. 1838.

No specimen is cited in the protologue.

20. *P. crispus* var. *acutifolius* [f.] b. *longifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 269. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 32. 1838.
= *P. crispus* var. *serrulatus* subvar. *longifolius* (Fieber) Ascherson et Graebner, Synops. Mitteleurop. Fl. 1: 336. 1897.
= *P. crispus* [var.] δ *longifolius* (Fieber) Rouy, Fl. France 13: 317. 1912.

Typi: **lectotypus hoc loco electus**: “In Boh[emia]” (1836 s. coll. PR, herb. typ. no. 11450a); specimen authenticum ceterum: “Im Bache bei Wrschowie” [= Praha-Vršovice] (1836 Opiz PR, herb. typ. no. 11450b).

21. *P. crispus* [var.] β *obtusifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 269. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 32. 1838.
= *P. crispus* f. *obtusifolius* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 225. 1936.

No specimen is cited in the protologue.

22. *P. crispus* var. *obtusifolius* [f.] a. *angustifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 269. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 32. 1838.
= *P. crispus* var. *serrulatus* subvar. *angustifolius* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 99. 1907.

Typi: **lectotypus hoc loco electus**: “Prag” [= Praha] (1836 Schöder PR, herb. typ. no. 11451a); **isolectotypi**: “Prag” [= Praha] (1836 Schöder PR, herb. typ. no. 11451b; PRC, herb. typ. no. 940).

23. *P. crispus* var. *obtusifolius* [f.] b. *latifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 269. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 32. 1838.

Typus: **lectotypus hoc loco electus**: “Im Bache Kleinarka bei Lochy” [= Třebešice u Čáslavi] (1836 Opiz PR, herb. typ. no. 11451c).

24. *P. acutifolius* [var.] α *major* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 272. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 35. 1838.

≡ *P. acutifolius* f. *major* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

Typi: **lectotypus hoc loco electus**: “A. Gräben um Elbekosteletz” [= Kostelec nad Labem] (s. d. Tausch PR, herb. typ. no. 11453d, *planta dextrorsum*) [Tausch Herb. Fl. Bohem. no. 1811]; specimina authentica cetera: “Schlackenwerth” [= Ostrov u Karlových Varů] (s. d. Reuss PR, herb. typ. no. 11453a); “Schlackenwerth in Teichen” [= Ostrov u Karlových Varů] (1838 Reuss PR, herb. typ. no. 11453b); “Schlackenwerth” [= Ostrov u Karlových Varů] (1830 s. coll. PR, herb. typ. no. 11453c).

25. *P. acutifolius* [var.] β *minor* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 272. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 35. 1838.

≡ *P. acutifolius* f. *minor* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

No authentic specimen has been found in the herbaria studied.

26. *P. obtusifolius* [var.] α *angustifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 275. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 38. 1838.

≡ *P. obtusifolius* f. *angustifolius* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

Typi: **lectotypus hoc loco electus**: “Bey Niemes” [= Mimoň] (s. d. Lorinser PR, herb. typ. no. 11462a); **isolectotypi**: “Niemes” [= Mimoň] (s. d. Lorinser PR, herb. typ. no. 11462b–11462n; PRC, herb. typ. no. 941).

Fieber described 3 taxa on the basis of this very rich collection: *P. obtusifolius* var. *angustifolius* and two its forms. As he signed no herbarium specimen both the forms cannot be typified because it is not clear now what plant he considered for which form.

27. *P. obtusifolius* var. *angustifolius* [f.] a. *acutus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 275. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 38. 1838.

≡ *P. obtusifolius* var. *fluvialis* subvar. *acutus* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 109. 1907.

≡ *P. obtusifolius* f. *angustifolius* subf. *acutus* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

No unambiguous specimen is cited in the protologue.

28. *P. obtusifolius* var. *angustifolius* [f.] b. *apiculatus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 275. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 38. 1838.

- ≡ *P. obtusifolius* var. *fluvialis* subvar. *apiculatus* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 109. 1907.
- ≡ *P. obtusifolius* f. *angustifolius* subf. *apiculatus* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

No unambiguous specimen is cited in the protologue.

29. *P. obtusifolius* [var.] β *latifolius* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 275. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 38. 1838.
- ≡ *P. obtusifolius* f. *latifolius* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

No specimen is cited in the protologue.

30. *P. obtusifolius* var. *latifolius* [f.] a. *muticus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 275. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 38. 1838.
- ≡ *P. obtusifolius* var. *latifolius* subvar. *muticus* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 109. 1907.
 - ≡ *P. obtusifolius* f. *latifolius* subf. *muticus* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

No authentic specimen has been found in the herbaria studied.

31. *P. obtusifolius* var. *latifolius* [f.] b. *obtusus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 275. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 38. 1838.
- ≡ *P. obtusifolius* var. *latifolius* subvar. *obtusus* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 109. 1907.
 - ≡ *P. obtusifolius* f. *latifolius* subf. *obtusus* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 228. 1936.

Typus: **lectotypus hoc loco electus**: “Tutschap” [= Tučapy u Táboru] (s. d. Berchtold PR, herb. typ. no. 11463).

32. *P. berchtoldii* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 277. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 40. 1838. (“Berchtoldi”)
- ≡ *P. pusillus* subsp. *berchtoldii* (Fieber) Magnin, Bull. Soc. Bot. France 43: 446. 1896. (“Berchtoldi”)
 - ≡ *P. pusillus* var. *berchtoldii* (Fieber) Aschers. et Graebner, Synops. Mitteleurop. Fl. 1: 345. 1897. (“Berchtoldii”)

Typi: **lectotypus hoc loco electus**: “Reichstadt” [= Zákupy] (s. d. Hockauf PR, herb. typ. no. 11452a); specimen authenticum ceterum: “Marburg” (s. d. Prasens PR, herb. typ. no. 11452b).

Both specimens (the lectotype plant is shown in Fig. 13) were also studied by E. Hofmann and signed: “Potamogeton Berchtoldii Fieber!, von ihm selbst bestimmt”. Another specimen, a fragment of stem on herbarium sheet no. 11452c, is in all likelihood a part of the specimen from sheet no. 11452b. Both plants are conspicuously alike in many ways: the same morphotype, equal fruit set, the same colour of leaves and stem, comparable shape of stipules, both plants are in the same stage of seasonal development etc. When E. Hofmann studied specimen no. 11452b he presumably took a small part of the stem from this herbarium sheet for his own herbarium where it was later found and signed by L. Čelakovský “Ex herb. Hofmann”. Therefore it could be considered to be an isolectotype.

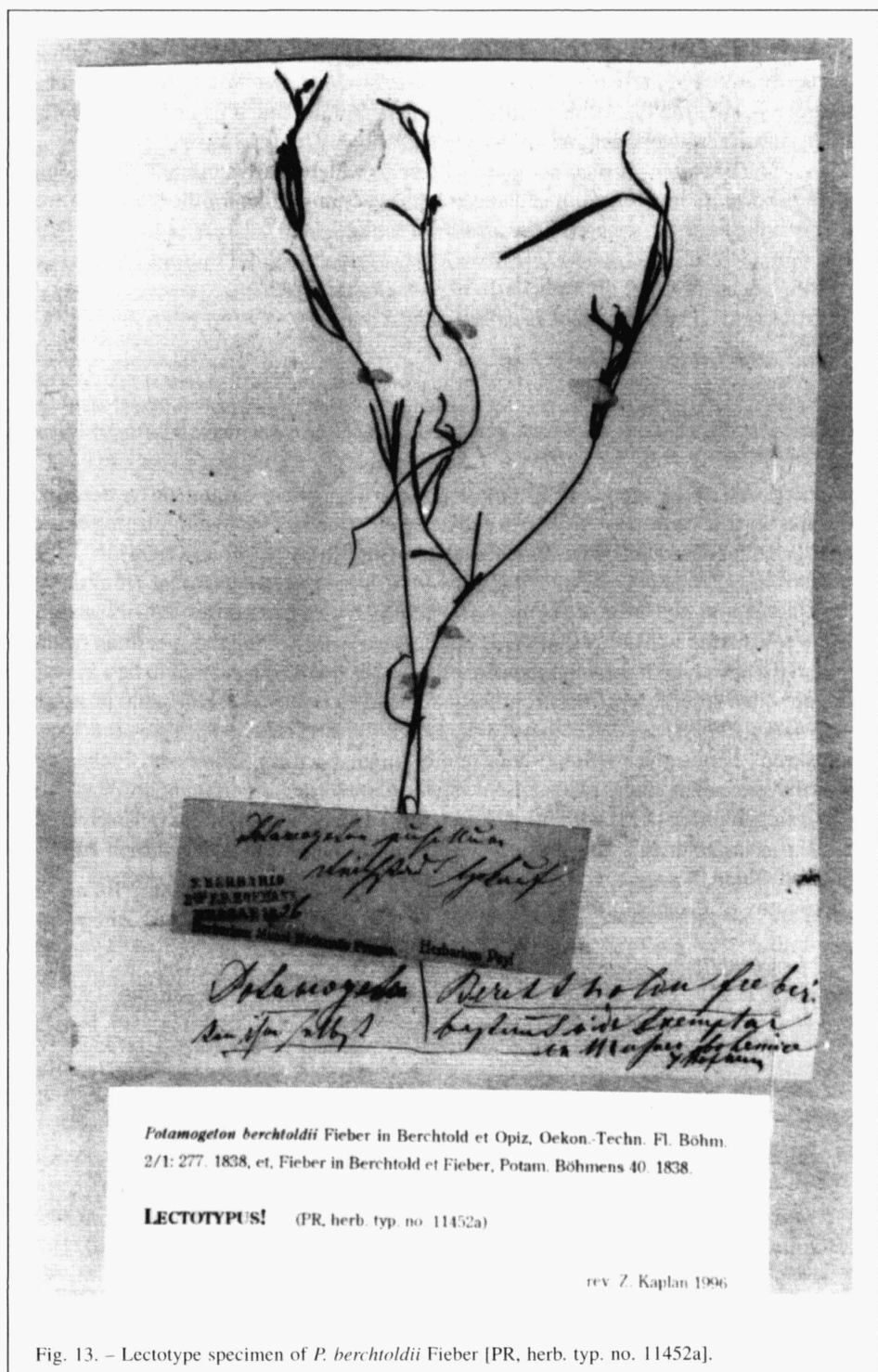


Fig. 13. – Lectotype specimen of *P. berchtoldii* Fieber [PR, herb. typ. no. 11452a].

Two other specimens have been found which could possibly be authentic:

“Landskron in Böhmen” (s. d. s. coll. [“Potamogeton Berchtoldii Fieber, von ihm selbst bestimmt”] PR, herb. typ. no. 11452d); s. loc. (s. d. s. coll. [“Pot. Berchtoldii Fieber”] PR, herb. typ. no. 11452e). As no locality of this geographic name is given in the protologue both the specimens were determined by Fieber probably after 1838.

Plants of *Potamogeton pusillus* [sensu Fieber], which has been explicitly excluded from *P. berchtoldii* by Fieber himself and are thus very important for the interpretation of Fieber’s concept of the species, have also been found:

“A. Gräben um Elbekosteletz” [= Kosteletz nad Labem] (s. d. [Tausch] PR, herb. typ. no. 11453f et no 11453g) [Tausch Herb. Fl. Bohem. no. 1812].

Part of the original protologue is as follows:

340. *Potamogeton Berchtoldii Fieber!*

Blätter kleinspizig oder haarspizig, 3rippig. Mittelrippe mit 2 Seitennerven. Blumenstiel 3–3½ mal länger als die Aehre. Sepala quer elliptisch, oben ausgeschnitten. Früchte fast rundlich-fünfeckig, kleinwarzig. Steinschale rundlich fünfeckig, beiderseits gespitzt. Duerschnitt breit enförmig, Rückenkiel halbrund, vorstehend, Seitenkiele getrennt, abgerundet.

A complete descriptive section of the protologue consisting of a comprehensive description of the species and its infraspecific taxa and determination key for distinguishing between *P. pusillus* and *P. berchtoldii* was translated into English by Marshall (1894).

Hagström (1916: 121) wrote: “Of *P. Berchtoldii* I have seen specimens from the very locus classicus »Landskron Bohemia« determined by Fieber himself.” This statement must be considered to be erroneous because Hagström did not see the specimen from the *locus classicus* in fact (not even the specimen which could be considered to be a syntype). There are cited several localities from Bohemia and Germany in the original protologue of the name *P. berchtoldii* (Fieber 1838, Berchtold et Fieber 1838) but the locality “Landskron” is not given among them in any linguistic form. Moreover, Fieber never signed the specimens studied himself. Several specimens have been found in PR gathered by E. Erxleben (after 1838) with printed herbarium labels “Landskroun, E. Erseleben” or “Landskron in Böhmen”. Hagström probably saw some duplicate specimen from this collection which, however, could not have been authentic.

Taxonomy of *P. berchtoldii* will be discussed in a separate paper.

33. *P. berchtoldii* [var.] α *mucronatus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 277. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 40. 1838.

≡ *P. pusillus* var. α *mucronatus* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 115. 1907, nom. illeg., non *P. pusillus* var. *mucronatus* (Schrader ex Sonder) Hook. fil., Stud. Fl. Brit. Isl. 374. 1870.

≡ *P. pusillus* var. *major* subvar. *mucronatus* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 229. 1936, nom. illeg.

≡ *P. pusillus* var. *major* f. *mucronatus* (Fieber) Soó, Repert. Spec. Nov. Regni Veg. 45: 249. 1938, nom. illeg.

No specimen is cited in the protologue.

34. *P. berchtoldii* var. *mucronatus* [f.] a. *ramosissimus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 277. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 40. 1838.

≡ *P. pusillus* var. *ramosissimus* (Fieber) Ascherson, Fl. Brandenb. 1: 665. 1864.

≡ *P. pusillus* var. *cuspidatus* f. *ramosissimus* (Fieber) G. Fischer, Ber. Bayer. Bot. Ges. 11: 116. 1907.

≡ *P. pusillus* var. *mucronatus* subvar. *ramosissimus* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 115. 1907.

No specimen is cited in the protologue.

35. *P. berchtoldii* var. *mucronatus* [f.] b. *simplex* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 277. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 40. 1838.

≡ *P. pusillus* var. *cuspidatus* f. *simplex* (Fieber) G. Fischer, Ber. Bayer. Bot. Ges. 11: 116. 1907.

≡ *P. pusillus* var. *mucronatus* subvar. *simplex* (Fieber) Graebner in Engler, Pflanzenr. 31 (IV.11): 115. 1907.

Typus: **lectotypus hoc loco electus**: “Bäche u. Stehends Wässer, bey Tepl” [= Teplá] (s. d. Konrad PRC, herb. typ. no. 942).

36. *P. berchtoldii* [var.] β *acuminatus* Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 278. 1838, et Fieber in Bercht. et Fieber, Potam. Böhmens 41. 1838.

≡ *P. pusillus* var. *acuminatus* (Fieber) G. Fischer, Ber. Bayer. Bot. Ges. 11: 115. 1907.

≡ *P. pusillus* var. *major* subvar. *acuminatus* (Fieber) Soó, Magyar Biol. Kutatóint. Munkái 8 (1935–1936): 229. 1936.

≡ *P. pusillus* var. *major* f. *acuminatus* (Fieber) Soó, Repert. Spec. Nov. Regni Veg. 45: 249. 1938.

Typi: **lectotypus hoc loco electus**: “Prag” [= Praha] (s. d. Mann PRC, herb. typ. no. 943); specimen authenticum ceterum: “Reichstadt” [= Zákupy] (s. d. Hockauf PR, herb. typ. no. 11452a – typus speciei).

When Fieber (1838) described the following taxa he ascribed them to Mertens and Koch (1823). However, in that work the authors recognized these taxa, appended their descriptions, but did not name them with the Latin epithets. Therefore the names have been validly published as late as in the Fieber’s treatment. Since there is no indication that Mertens and Koch provided the validating descriptions, the names have to be attributed to Fieber and should be cited as “Mert. et W. D. J. Koch ex Fieber”. However, Fieber designated different types from those which the previous authors had studied. Therefore these names have to be typified by the specimens cited in the Fieber’s validating protologue.

37. *P. pectinatus* [var.] α *foliosus* Mert. et W. D. J. Koch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 280. 1838, et Mert. et W. D. J. Koch ex Fieber in Bercht. et Fieber, Potam. Böhmens 43. 1838.

Typi: **lectotypus hoc loco electus**: “Teichen um Tauschin” [= Toušeň] (s. d. [Tausch] PR, herb. typ. no. 11465a) [Tausch Herb. Fl. Bohem. no. 1812b.]; **isolectotypus**: “A. Teichen b. Tauschin” [= Toušeň] (s. d. Tausch PR, herb. typ. no. 11465b) [Tausch Herb. Fl. Bohem. no. 1812b.]; specimina authentica cetera: “Im Teiche in den Scharka bei Prag” [= Praha] (1814 Opiz PR, herb. typ. no. 11465c); “Scharka” (1806 Kratzmann PR, herb. typ. no. 11465d, no. 11465g et no. 11465h); “In Stadtteichen bei Časlau” [= Čáslav] (1807 Opiz PR, herb. typ. no. 11465e); “In piscinis prope Časlaviam, Bohemia” (1809 [Opiz] PR, herb. typ. no. 11465f).

38. *P. pectinatus* [var.] β *protensus* Mert. et W. D. J. Koch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 281. 1838, nom. illeg., et Mert. et W. D. J. Koch ex Fieber in Bercht. et Fieber, Potam. Böhmens 44. 1838, nom. illeg., non *P. pectinatus* [var.] α *protensus* Wallr., Sched. Crit. 67. 1822.

= *P. pectinatus* [var.] α *longissimus* Mert. et W. D. J. Koch ex Schultes et Schultes fil., Mantissa 3: 363. 1827, pro syn. *P. pectinati* α. *protensi*, nom. inval.

No authentic specimen has been found in the herbaria studied.

39. *P. pectinatus* [var.] γ *ramosissimus* Mert. et W. D. J. Koch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 281. 1838, et Mert. et W. D. J. Koch ex Fieber in Bercht. et Fieber, Potam. Böhmens 44. 1838.

No authentic specimen has been found in the herbaria studied.

40. *P. pectinatus* [var.] δ *caespitosus* Mert. et W. D. J. Koch ex Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 281. 1838, et Mert. et W. D. J. Koch ex Fieber in Bercht. et Fieber, Potam. Böhmens 44. 1838.

= *P. "pusillus"* [var.] γ *cespitosus* Mert. et W. D. J. Koch ex Schultes et Schultes fil., Mantissa 3: 364. 1827, pro syn. *P. pectinati* γ *scoparii*, nom. inval.

Typi: **lectotypus hoc loco electus**: "Rozkož" [prope Bohdaneč] (1818 Opiz PR, herb. typ. no. 11464a); **isolectotypus**: "Rozkož prope Pardubitz" [= Pardubice] (1818 Opiz PR, herb. typ. no. 11464b).

Potamogeton friesii described by Franz Josef Ruprecht (1814–1870)

The species currently treated as *P. friesii* Rupr. was already known to earlier botanists (e. g. Mertens et Koch 1823, Schultes et Schultes 1827, Smith 1828, Fieber 1838, Reichenbach 1845). However, following the authority of Oeder (1765), they misapplied Linnaeus' name *P. compressus* to it. The interpretation of the name *P. compressus* L. was corrected by Fries (1828) and the name itself has been typified by Haynes (1986) in accordance with Fries' result.

Authors not treating this taxon at the species level gave it various new names. It was named as *P. compressus* [var.] β *acutus* by Schlechtendal (1823), *P. compressus* [var.] β *elongatus* by Wahlenberg (1824), *P. pusillus* [var.] a. *major* by Fries (1828) and *P. pusillus* [var.] a. *latifolius* by Meyer (1836). The first author, who treated it as a distinct species and did not misapply the name *P. compressus* to it, was Schrader. He proposed a new name *P. mucronatus*, but he never published it himself. The first literature source where the name appeared was Roemer et Schultes (1818) where it is noted only as "Quid *P. mucronatus* Schrad." without any description or reference. The name is further mentioned by Mertens et Koch (1823), when they quoted Roemer and Schultes' publication and stated: "... *P. mucronatus* Schrad., wie wir hören, *P. cornutus* seyn, aber gewiß wissen wir das auch nicht.". Schultes et Schultes (1827) adopted this result: "POTAMOGETON *mucronatus* Schrad., ut fertur, *cornutus* est. Mert. et Koch in Röhl. Deutschl. Fl. p. 806.". The name was also quoted in synonymy of "Potamogeton compressus Linn. Oeder" by Reichenbach (1845). The first description of *P. mucronatus* Schrader, where the name was also adopted, was given as late as in 1850 by Sonder and corresponds very well with the taxon recently called *P. friesii* Rupr. The author (Sonder) also quoted the names "P. compressus Sm. Engl. Bot. t. 418. Oed. fl. dan. t. 203. Reichb. D. Fl. t. XXIV." and "P. pusillus var. major Fries. Koch. Reichb. fl. germ. exc." as synonyms which all represent *P. friesii*. No valid publication of the name *P. mucronatus* Schrader in the literature before 1850 has been found by Ruprecht (1845), Bennett (1894), Haynes (1974) nor by the present author. Later on, the name was accepted by Ascherson et Graebner (1897), Fischer (1904, 1907), Graebner (1907), Rouy (1912) and Hagström (1916).

However, prior to the first valid publication of *P. mucronatus* Schrader by Sonder, the species was described by Ruprecht (1845). The first author who elected to use the name *P. friesii* instead of *P. mucronatus* was Bennett (1890). Since the original Ruprecht's paper is probably not commonly available I have included the relevant protologue here:

*Potamogeton Friesii** s. *P. compressus* Reichenb. Icon. f. 42 et Weinm. Fl. Petrop. n. 122 α Tempore antiquiori hic et imo a cell. Mert. et Koch pro specie a *P. pusillo* diversa considerabatur, donec cl. Chamisso et Schlecht. a. 1827 rationibus verisimillime theoreticis ducti (transitus enim nemo adhuc observasse videtur) formam A *P. pusilli* declaravere. Cl. Fries exinde *P. pusillum* α majorem fecit, pluribus notis a typo diversum, nec cum homonyma planta Mert. et Kochii (1823) confundendum. Similitudo fructus *P. hujus* et *P. pusilli* ansam conjunctioni his auctoribus praeuisse videtur, reliquae partes vero adeo discrepant, ut vel in distributione speciminum sterilium utriusque et incompletorum lapsus difficilis sit. Cl. Fieber a. 1837 iterum pro genuina specie bene restituit, sed epicrisi *Friesii* illi ignota pro *P. compresso* Linn. Spec. habuit, ut etiam cl. Reichenbach, plantam Linnaei auctoritate Oederi suffulciens et pro more suo egregio integrum genus lucidissime exponens. *P. mucronatus* Schrader, qui teste cl. Reichenbach (1844) idem est quod *P. Friesii*, ab auctore (Schrad.) nullibi descriptus, eo minus cum affinis expositus botanicos (v. g. Roem. et Schult. Mert. et Kochium) diu vexavit; hinc non est, cur nomen ejus anteponam cl. Friesio, qui primus omnium et doctissime demonstravit, in quam speciem genuinus *P. compressus* Linnaei quaerendus sit. Restat ut *P. (pusillus major) Friesii* in Hb. norm. Suec. V. non omni ex parte dubiis vacans de novo iterum exhibeatur.

All of the names quoted by Ruprecht in synonymy of the new species (i. e. *P. compressus* sensu Reichenbach 1845, Weinmann 1837 et Oeder 1765, *P. pusillus* var. A. Chamisso et Schlechtendal 1827 and *P. pusillus* [var.] a. *major* Fries 1828), on which the name is based, correspond very well to the taxon currently known as *P. friesii*. Since the author of the name expressed uncertainty of the identity of the herbarium specimen, the type of the species name is to be chosen from the literature references. As the description and figure given by Reichenbach (1845) is very perfect and well represents the species, it has been chosen as the lectotype of the name here:

Potamogeton friesii Rupr., Beitr. Pflanzenk. Russ. Reiches 4: 43. 1845. ("Friesii")

Typus: **lectotypus hoc loco electus**: [icon] Reichenbach, Icon. Fl. Germ. Helv. Vol. 7. tab. XXIV. 1845, ut "*Potamogeton compressus* Linn. Oeder., *mucronatus* Schrad. R.S., *pusillus maior* Fr. nov."

The following names and misinterpretations constitute a (part of) synonymy of *P. friesii*:

P. mucronatus Schrad. ex Roem. et Schult., Syst. Veg. ed. 15. 3: 517. 1818, nom. nud.

P. mucronatus Schrad. ex Reichenb., Icon. Fl. Germ. Helv. 7: 15. tab. XXIV. 1845, pro syn.

P. mucronatus Schrad. ex Sonder, Fl. Hamburg. 99. 1850. ("1851")

P. compressus [var.] β *acutus* Schlechtend., Fl. Berolin. 1: 117. 1823.

P. compressus [var.] β *elongatus* Wahlenb., Fl. Suec. 1: 107. 1824. ("elongatum")

P. pusillus [var.] a. *major* Fries, Novit. Fl. Suec. ed. 2. 48. 1828, nom. illeg., non Mert. et W. D. J. Koch, Röhrlings Deutschl. Fl. ed. 3. 1: 857. 1823.

P. pusillus [var.] a. *latifolius* G. F. W. Meyer, Chloris Hanov. 525. 1836.

P. oederi G. F. W. Meyer, Fl. Hanov. Exc. 536. 1849.

P. pusillus [var.] α *latifolius* Čelak., Prodr. Fl. Böhm. 1: 23. 1867, nom. illeg., non *P. pusillus* [var.] ("spielart") a. *latifolius* G. F. W. Meyer, Chloris Hanov. 525. 1836.

P. compressus auct. vetust. non L.: Oeder, Fl. Dan. 2/4: 6, tab. 203. 1765; Mert. et W. D. J. Koch, Röhrlings Deutschl. Fl. ed. 3. 1: 856. 1823; Opiz, Böheims Phäner. Crypt. Gewächse 23. 1823; Sm., Engl. Fl. 1: 234. 1828; Fieber in Bercht. et Opiz, Oekon.-Techn. Fl. Böhmens 2/1: 273. 1838; Fieber in Bercht. et Fieber, Potam. Böhmens 36. 1838; Reichenb., Icon. Fl. Germ. Helv. 7: t. 24, Fig. 42. 1845.

Potamogeton latifolius described by Daniel Sloboda (1809–1888)

1. *P. latifolius* Sloboda, Rostlinictví 229. 1852.

[= *P. gramineus* L.]

This neglected name has been refound by Holub (1974). He placed it among the heterophyllous species, but its exact relatedness remained unclear. As no authentic specimen has been found so far, the identity of the name can be deduced only from its description excerpted from a key to identification of species given by Sloboda (1852): Stem short, branched, prostrate; upper leaves differ from lower ones, elliptical or broadly lanceolate, opaque, coriaceous; submerged leaves translucent, sessile, often undulate, mucronate. The species is described in a note following *P. heterophyllus* Schreb. in the key. The description best fits *P. gramineus*, although *P. gramineus*-hybrids cannot be entirely excluded. The only two hybrids with *P. gramineus* as one of the parents which have been proved to be members of the flora of the Czech Republic are *P. ×angustifolius* J. S. Presl [= *P. gramineus* × *P. lucens*] and *P. ×nitens* Weber [= *P. gramineus* × *P. perfoliatus*]. Because of the rare occurrence of these hybrids in the Czech Republic, the relation of *P. latifolius* to broad leaved form of *P. gramineus* is much more probable.

The revelation of Sloboda's name has considerable consequences in nomenclature. The name of *Potamogeton latifolius* (J. W. Robbins) Morong, a North American taxon distinguished by certain authors (e. g. St. John 1916, Ogden 1966), therefore became illegitimate and was substituted by the name *P. latior* Holub (Holub 1983).

Potamogeton taxa described by Ladislav J. Čelakovský (1834–1902)

1. *P. praelongus* var. *brevifolius* Čelak., Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 1886: 11. 1886.

≡ *P. praelongus* f. *brevifolius* (Čelak.) Glück in Pascher, Süßwasserfl. Mitteleurop. 15: 51. 1936.
[= *P. praelongus* Wulf.]

Typus: **lectotypus hoc loco electus**: “V Orlici u Mašovic u Hradce Králové” (1885 Uzel PR, herb. typ. no. 11469)

The variety was described (Čelakovský 1886) using a plant sent to the author by J. Uzel:

Potamogeton praelongus Wulf. var. *brevifolius* m.

Blätter länglich, in der Mitte am breitesten, nur 6 cm. lang (an die von *P. perfoliatus* erinnernd).

In der Adler bei Mašovic bei Königgrätz (U)!

Ann. Bei der Normalform sind die Blätter länglich-lanzettlich, zur Spitze allmählich verschmälert, bis 17 cm. lang.

A herbarium sheet with the type specimen (Fig. 14) bears two stem fragments and an inflorescence with mature fruit. Both parts of the stem seem to be axillary branches. The species still occurs at the *locus classicus* and the plants growing there are of usual habitus with long leaves. A similar pattern in the leaf size can be observed in *P. perfoliatus*: the large leaves on the main stem often contrasting with the smaller leaves on the branches.

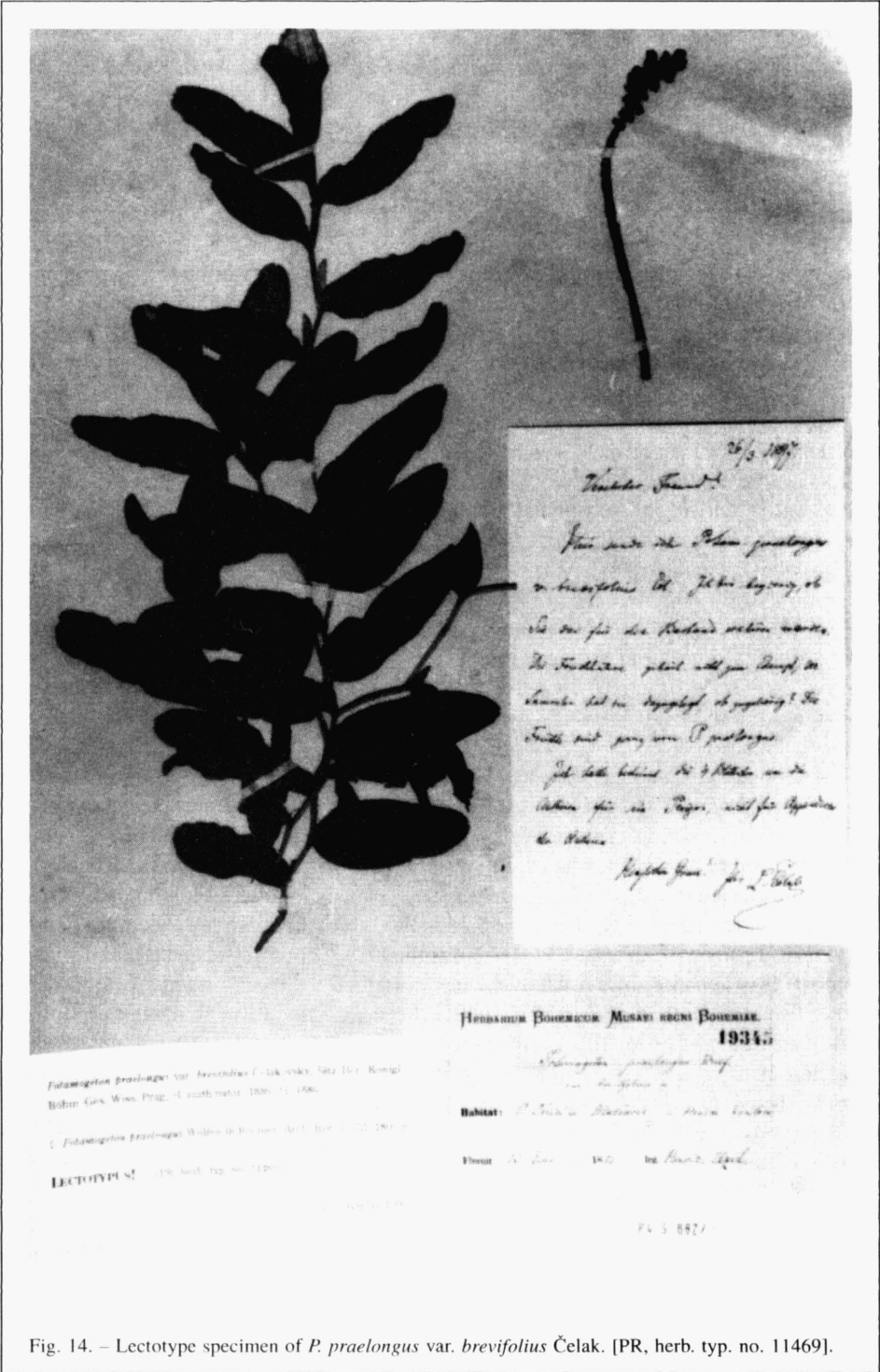


Fig. 14. – Lectotype specimen of *P. praelongus* var. *brevifolius* Čelak. [PR, herb. typ. no. 11469].

2. *P. pusillus* [subsp.] a) *genuinus* Čelak., Anal. Květ. Čech, Mor. a Rak. Slezska ed. 3. 43. 1897, nom. inval.
P. pusillus [subsp.] b) *mucronatus* (Schrader ex Sonder) Čelak., Anal. Květ. Čech, Mor. a Rak. Slezska ed. 3. 44. 1897.
P. natans [subsp.] a) *vulgaris* Čelak., Anal. Květ. Čech, Mor. a Rak. Slezska ed. 3. 45. 1897, nom. inval.
P. natans [subsp.] b) *fluitans* (Roth) Čelak., Anal. Květ. Čech, Mor. a Rak. Slezska ed. 3. 45. 1897.

Čelakovský (1897) discusses his concept of infraspecific units at the beginning of his Flora where he stated [all Czech texts of Čelakovský translated into English]: “More important and more constant races are presented behind the characters a), b), c), lesser varieties behind the Greek characters α ., β ., γ .” Čelakovský used this system already in his first Floras (Čelakovský 1867, 1870) as Domin (1947) and Hendrych (1958), respectively, also pointed out. Čelakovský used, especially in his German version of “Prodromus” (Čelakovský 1867), the term “Unterart”, which exactly corresponds to the term subspecies. In the Czech version of the work (Čelakovský 1868), both the Czech term (“poddruh”) and its Latin equivalent (“subspecies”) were used. Thus, all the quoted new taxa must be considered to be subspecies.

The name *P. pusillus* a) *genuinus* was accompanied by the following description: “Stem terete or slightly compressed. Leaves 3–5-nerved, narrow, acute, stipules descending; spike peduncles of the same width along its whole length.”. No authentic specimen has been found. According to the description, the name corresponds to *P. pusillus* L. s. l. (incl. *P. berchtoldii* Fieber). Because Čelakovský used the final epithet “genuinus”, indicating that the taxon contains the type of the species name, the name has not been validly published.

The second subspecies is based on *P. mucronatus* Schrad. [ex Sonder] as noted by Čelakovský (“Schrad. sp.”). Schrader’s name refers to *P. friesii* Rupr. (see above). The complementary description given by Čelakovský (“... internodes longer, leaves 5-nerved, ..., stipules more persistent, often split into 2 tips ...”) clearly relates to that species.

The subspecies *P. natans* a) *vulgaris* was described as follows: “Floating leaves ovate or ovate-oblong, slightly rounded at the base; submerged ones decayed except for petioles at anthesis. Fruits with an obtuse keel.”. No authentic specimen has been found. From the diagnosis it is apparent that Čelakovský has described the true *P. natans* L. in order to distinguish it from *P. nodosus* Poir., which he later named as “*P. natans* b) *fluitans* (*P. fluitans* Roth)”. The interpretation of the basionym *P. fluitans* Roth is still not resolved (Wiegand et Herr 1984). It is not clear whether the name really represents the sterile hybrid between *P. natans* L. and *P. lucens* L., as maintained by Dandy (1975) and Preston (1995), or possibly the fertile species now called *P. nodosus* Poir., as believed by Raunkiaer (1903), Glück (1936) and many other authors. This has resulted in the rejection of the name by several authors (e. g. Hagström 1916, Ogden 1943, Wiegand 1988).

3. *P. pusillus* L. [var.] α *latifolius* Čelak., Prodr. Fl. Böhm. 1: 23. 1867, nom. illeg., non *P. pusillus* [var.] (“spielart”) a. *latifolius* G. F. W. Meyer, Chloris Hanov. 525. 1836.
P. pusillus L. [var.] β *angustifolius* Čelak., Prodr. Fl. Böhm. 1: 23. 1867, nom. inval.
[non *P. pusillus* [var.] *angustifolius* Neill., Fl. von Nieder-Oesterr. 218. 1859.]

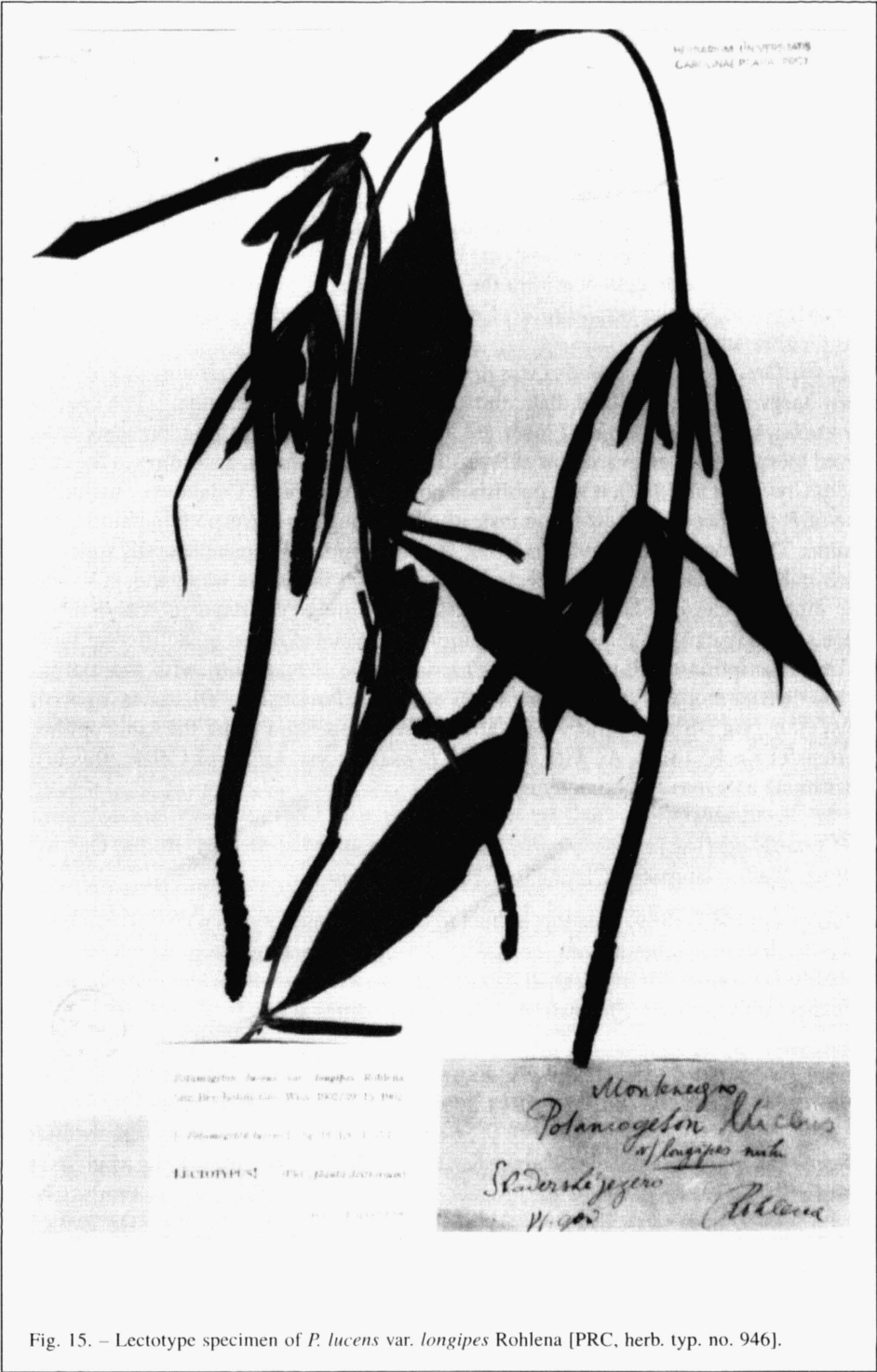


Fig. 15. – Lectotype specimen of *P. lucens* var. *longipes* Rohlena [PRC, herb. typ. no. 946].

P. pusillus L. [var.] γ *tenuissimus* Čelak., Prodr. Fl. Böhm. 1: 23. 1867, nom. illeg., non Mert. et W. D. J. Koch, Röhrlings Deutschl. Fl. ed. 3. 1: 857. 1823.

No authentic specimen has been found in the herbaria studied. The interpretation of the names can therefore only be based on the protologues (Čelakovský 1867).

P. pusillus α *latifolius* is accompanied by the synonyms *P. compressus* sensu Mert. et W. D. J. Koch and sensu Fieber and by description in German: “Blätter 1''' breit, meist 5nervig mit zahlreicheren Verbindungsästen.” Both the synonyms and the description correspond to *P. friesii* Rupr. However, because an earlier infraspecific name already existed with the same epithet within the same species *P. pusillus*, based on a different type (Meyer 1836), the var. *latifolius* Čelak. must be treated as a later homonym and is thus illegitimate.

P. pusillus var. β *angustifolius* was described as follows: “Blätter nur etwa ½''' breit, meist 3nervig, Mittelrippe bald dick, einfach, bald mit 2–4 Seitenästen.” The synonyms *P. pusillus* L. et *P. berchtoldii* Fieber are also presented. The name represents narrow-leaved morphotypes of a variation of *P. pusillus* L. s. l. However, according to the current Code (Greuter et al. 1994), it was published not validly, because Čelakovský included the type of *P. pusillus* in his new taxon instead of adopting the corresponding autonym var. *pusillus*. Therefore var. *angustifolius* Čelak. is now considered nomenclaturally superfluous when published and has to be rejected. Even though the name was valid, it would be illegitimate, because Čelakovský made a later homonym, as var. *angustifolius* of the same species already existed, published by Neilreich (1859) and based on a different type.

The description of *P. pusillus* var. γ *tenuissimus* is in accord with the extremely narrow-leaved morphotypes of a variation of *P. pusillus* L. s. l.: “Blätter fast borstlich, meist einnervig”. Similar plants have already been described under the same epithet by Mertens et Koch (1823). As with the name *P. pusillus* var. *latifolius* Čelak., this is also illegitimate as a result of homonymy.

4. *P. gramineus* [var.] α *homoeophyllus* Čelak., Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 1883: 8. 1883, nom. nud.

Čelakovský (1883, 1889) used this epithet to designate phenotypes with only submerged leaves to distinguish them from those with developed floating leaves which he named, probably following Fries (1828), *P. gramineus* var. *heterophyllus*. The relevant parts of his papers only provide information on floristic findings.

Potamogeton lucens var. *longipes* described by Josef Rohlena (1874–1944)

P. lucens var. *longipes* Rohlena, Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 1902/39: 15. 1902.

≡ *P. lucens* var. *vulgaris* subvar. *longipes* (Rohlena) Graebner in Engler, Pflanzenr. 31 (IV.11): 79. 1907.
[= *P. lucens* L.]

Typi: **lectotypus hoc loco electus**: “Montenegro: Skaderské jezero” (1900 Rohlena PRC, herb. typ. no. 946, *planta dextrorsum*); **isolectotypus**: “Crna Gora: Skad. jezero” (s. d. Rohlena PRC, herb. typ. no. 947).

The variety was described in the following form (Rohlena 1902, 1942):

Pedunculis spicarum eximie incrassatis et valde elongatis (35 cm usque), spicis folia 2–3-plo superantibus. Foliis ut in var. acuminato Fries longe acutatis apice convolutis. In recessibus lacus "Skadarsko blato" ad Karuj copiosissime.

The authentic plants (the lectotype plant is shown in Fig. 15) show *P. lucens* with extremely elongated peduncles. Though very conspicuous, the plants do not deserve any taxonomic status but represent an ecomorphose caused by environmental conditions in deep lakes with clear water. Rohlena himself reported usual forms of *P. lucens* from the same lake and these relevant specimens have also been found in PRC. Their peduncles are only about 70 mm long.

Similar ecomorphoses occur also in other *Potamogeton* species. Hagström (1916: 205) reported the same morphotype ("peduncles of as much as 35 cm in length") of *P. gramineus* as an adaptation of plants from deep and fast running waters. Specimens of *P. pectinatus* preserved in the exsiccate collection (Tiselius, Potam. Suec. Exsicc., fasc. 3, no. 131. 1897.) under the name *P. pectinatus* f. *longipedunculatus* Tiselius are in all likelihood of identical origin.

Summary

Seventy-four names within the genus *Potamogeton* have been proposed by Bohemian botanists. In the course of the revision of the genus in the Czech Republic, altogether 115 type and/or authentic specimens related to 34 names have been detected in PR, PRC, BRNM and BRNU. This material has been comprehensively studied and from revised specimens lectotypes have been chosen and designated. The remaining names have not yet been typified for various reasons: (1) no authentic specimen cited in the appropriate protologue has been found in the herbaria studied, (2) no specimen is cited in the protologue and no specimen signed by the author seems to exist, or (3) the new names are new combinations based on previously validly published names, typified by specimens not deposited in herbarium collections in the Czech Republic.

Most of the names have been synonymized with names at present considered correct (Appendix 1). However, four names and their types are of great importance for plant taxonomy. The species formerly known as *P. pusillus* [auct.] must be named *P. berchtoldii* Fieber, while the name *P. pusillus* L. must be adopted for a taxon called *P. panormitanus* Biv. as Dandy and Taylor pointed out already in 1938. However, modern biosystematic study of the *P. pusillus* agg. is still needed. Although the first published name relating to the taxon known as *P. malaianus* [auct.] is *P. mucronatus* C. B. Presl, the correct name for this species is *P. wrightii* Morong, as the former one must be considered illegitimate. A hybrid between *P. gramineus* L. and *P. lucens* L., named *P. xzizii* Roth ex W. D. J. Koch by many authors, must be called *P. xangustifolius* J. S. Presl. The justification of the use of the name *P. friesii* Rupr. instead of "*P. mucronatus* Schrad." has been confirmed. Since the name *P. serrulatus* Schrad. ex Opiz appeared to be invalidly published, the name *P. serrulatus* Regel et Maack could eventually be the correct name for the taxon currently known as *P. maackianus* A. Benn. unless the later one will be conserved, as proposed here for the preservation of nomenclatural stability. The preparation of an official proposal is under progress.

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Souhrn

V letech 1819–1902 publikovali čeští a/nebo v Čechách žijící a působící autoři (L. Čelakovský, F. X. Fieber, P. M. Opiz, J. S. Presl, K. B. Presl, J. Rohlena, F. J. Ruprecht, D. Sloboda a I. F. Tausch) jako výsledek svých taxonomických studií rodu *Potamogeton* 74 jmen. Během revize čeledi *Potamogetonaceae* v České republice jsem při studiu veřejných herbariových sbírek našel v herbářích PR a PRC celkem 115 typových, příp. autentických položek, které se vztahovaly k 34 jménům taxonů, jež jejich autoři považovali za nově objevené pro vědu. Tyto položky a okolnosti spojené s publikací nových jmen byly zevrubně studovány a vybrané typy označeny. Zbývající jména nebylo možné z různých příčin typifikovat.

Většina studovaných jmen byla pro neoprávněnost taxonomického rozlišení synonymizována s jinými platnými jmény (přehled je uveden v příloze – Appendix 1). Některá z nich jsou však významná i pro současnou taxonomii a nomenklaturu rodu *Potamogeton*. Byl potvrzen dřívější předpoklad, že *P. berchtoldii* Fieber je správné jméno pro taxon oddělený od druhu *P. pusillus* L. s. str., pokud je považován za samostatný druh. Jméno *P. mucronatus* C. B. Presl je nejstarším jménem, které se vztahuje k druhu dosud v literatuře chybně označovanému jako „*P. malaianus*“. Nemůže však být pro tento druh z nomenklatorických důvodů použito, neboť bylo v době zveřejnění neoprávněné. Správné jméno pro tento východoasijský druh je *P. wrightii* Morong. Kříženec druhů *P. gramineus* L. a *P. lucens* L., v dnešní literatuře někdy označovaný jménem *P. xizii* Roth ex W. D. J. Koch, je nutné z důvodu nomenklatorické priority nazývat *P. xangustifolius* J. S. Presl. Dále byla potvrzena oprávněnost užívání jména *P. friesii* Rupr. místo dříve často uváděného „*P. mucronatus* Schrad.“. U jména *P. serrulatus* Schrad. ex Opiz bylo zjištěno, že bylo zveřejněno neplatně, a proto neznemožňuje užití mladšího jména *P. serrulatus* Regel et Maack. V tomto případě by však bylo vhodnější využít možnosti konzervace jména *P. maackianus* A. Benn. v zájmu zachování nomenklatorické stability. Oficiální návrh na jeho konzervaci bude vypracován později.

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Appendix 1. – Comparison of names of *Potamogeton* proposed by Bohemian botanists with their contemporary taxonomic view. Names in the left column which are used as valid names for currently recognized taxa are printed in **bold**.

name	current view
<i>P. acutifolius</i> var. <i>major</i> Fieber	<i>P. acutifolius</i> Link
<i>P. acutifolius</i> var. <i>major</i> f. <i>acutus</i> Fieber ex Opiz	<i>P. acutifolius</i> Link
<i>P. acutifolius</i> var. <i>major</i> f. <i>obtusus</i> Fieber ex Opiz	<i>P. acutifolius</i> Link
<i>P. acutifolius</i> var. <i>minor</i> Fieber	<i>P. acutifolius</i> Link
<i>P. xangustifolius</i> J. S. Presl	<i>P. xangustifolius</i> J. S. Presl [= <i>P. gramineus</i> L. × <i>P. lucens</i> L.]
<i>P. berchtoldii</i> Fieber	<i>P. berchtoldii</i> Fieber
<i>P. berchtoldii</i> var. <i>acuminatus</i> Fieber	<i>P. berchtoldii</i> Fieber
<i>P. berchtoldii</i> var. <i>mucronatus</i> Fieber	<i>P. berchtoldii</i> Fieber
<i>P. berchtoldii</i> var. <i>mucronatus</i> f. <i>ramosissimus</i> Fieber	<i>P. berchtoldii</i> Fieber
<i>P. berchtoldii</i> var. <i>mucronatus</i> f. <i>simplex</i> Fieber	<i>P. berchtoldii</i> Fieber
<i>P. caudatus</i> Seidl ex Opiz, nom. illeg.	<i>P. lucens</i> L.
<i>P. condylocarpus</i> Tausch	<i>P. trichoides</i> Cham. et Schlechtend.
<i>P. cornutus</i> J. S. Presl et C. B. Presl	<i>P. lucens</i> L.
<i>P. crispus</i> var. <i>acutifolius</i> Fieber	<i>P. crispus</i> L.
<i>P. crispus</i> var. <i>acutifolius</i> f. <i>longifolius</i> Fieber	<i>P. crispus</i> L.
<i>P. crispus</i> var. <i>acutifolius</i> f. <i>vulgaris</i> Fieber	<i>P. crispus</i> L.
<i>P. crispus</i> var. <i>obtusifolius</i> Fieber	<i>P. crispus</i> L.
<i>P. crispus</i> var. <i>obtusifolius</i> f. <i>angustifolius</i> Fieber	<i>P. crispus</i> L.
<i>P. crispus</i> var. <i>obtusifolius</i> f. <i>latifolius</i> Fieber	<i>P. crispus</i> L.
<i>P. densus</i> var. <i>laxus</i> Opiz ex Fieber	<i>Groenlandia densa</i> (L.) Fourr.
<i>P. densus</i> var. <i>rigidus</i> Opiz ex Fieber	<i>Groenlandia densa</i> (L.) Fourr.
<i>P. friesii</i> Rupr.	<i>P. friesii</i> Rupr.
<i>P. gramineus</i> var. <i>homoeophyllus</i> Čelak., nom. nud.	<i>P. gramineus</i> L.
<i>P. heterophyllus</i> var. <i>normalis</i> Opiz, nom. inval.	<i>P. gramineus</i> L.
<i>P. heterophyllus</i> var. <i>normalis</i> f. <i>elongatus</i> Opiz	<i>P. gramineus</i> L.
<i>P. heterophyllus</i> var. <i>normalis</i> f. <i>foliosus</i> Opiz, nom. inval.	<i>P. gramineus</i> L.
<i>P. latifolius</i> Sloboda	<i>P. gramineus</i> L.

name	current view
<i>P. lucens</i> var. <i>longipes</i> Rohlena	<i>P. lucens</i> L.
<i>P. montanus</i> C. B. Presl	<i>P. cf. linguatus</i> Hagström
<i>P. mucronatus</i> C. B. Presl	<i>P. wrightii</i> Morong
<i>P. natans</i> subsp. <i>fluitans</i> (Roth) Čelak.	? <i>P. natans</i> L. × <i>P. lucens</i> L.
<i>P. natans</i> subsp. <i>vulgaris</i> Čelak., nom. inval.	<i>P. natans</i> L.
<i>P. natans</i> var. <i>lancifolius</i> Fieber	<i>P. natans</i> L.
<i>P. natans</i> var. <i>ovalifolius</i> Fieber	<i>P. natans</i> L.
<i>P. nitens</i> var. <i>angustifolius</i> Fieber	<i>P. xnitens</i> Weber [= <i>P. gramineus</i> L. × <i>P. perfoliatus</i> L.]
<i>P. nitens</i> var. <i>latifolius</i> Fieber	? <i>P. xnitens</i> Weber [= <i>P. gramineus</i> L. × <i>P. perfoliatus</i> L.]
<i>P. oblongus</i> var. <i>cordifolius</i> (Cham. et Schlechtend.) Fieber	<i>P. polygonifolius</i> Pourret
<i>P. oblongus</i> var. <i>lancifolius</i> (Cham. et Schlechtend.) Fieber	<i>P. polygonifolius</i> Pourret
<i>P. oblongus</i> var. <i>ovato-oblongus</i> Fieber, nom. inval.	<i>P. polygonifolius</i> Pourret
<i>P. obtusifolius</i> var. <i>angustifolius</i> Fieber	<i>P. obtusifolius</i> Mert. et W. D. J. Koch
<i>P. obtusifolius</i> var. <i>angustifolius</i> f. <i>acutus</i> Fieber	<i>P. obtusifolius</i> Mert. et W. D. J. Koch
<i>P. obtusifolius</i> var. <i>angustifolius</i> f. <i>apiculatus</i> Fieber	<i>P. obtusifolius</i> Mert. et W. D. J. Koch
<i>P. obtusifolius</i> var. <i>latifolius</i> Fieber	<i>P. obtusifolius</i> Mert. et W. D. J. Koch
<i>P. obtusifolius</i> var. <i>latifolius</i> f. <i>muticus</i> Fieber	<i>P. obtusifolius</i> Mert. et W. D. J. Koch
<i>P. obtusifolius</i> var. <i>latifolius</i> f. <i>obtus</i> Fieber	<i>P. obtusifolius</i> Mert. et W. D. J. Koch
<i>P. paucifolius</i> Opiz	<i>P. gramineus</i> L.
<i>P. pectinatus</i> var. <i>caespitosus</i> Mert. et W. D. J. Koch ex Fieber	<i>P. pectinatus</i> L.
<i>P. pectinatus</i> var. <i>foliosus</i> Mert. et W. D. J. Koch ex Fieber	<i>P. pectinatus</i> L.
<i>P. pectinatus</i> var. <i>protensus</i> Mert. et W. D. J. Koch ex Fieber, nom. illeg.	<i>P. pectinatus</i> L.
<i>P. pectinatus</i> var. <i>ramosissimus</i> Mert. et W. D. J. Koch ex Fieber	<i>P. pectinatus</i> L.
<i>P. perfoliatus</i> var. <i>cordato-lanceolatus</i> Mert. et W. D. J. Koch ex Fieber	<i>P. perfoliatus</i> L.
<i>P. perfoliatus</i> var. <i>ovalifolius</i> Mert. et W. D. J. Koch ex Fieber, nom. illeg.	<i>P. perfoliatus</i> L.
<i>P. perfoliatus</i> var. <i>rotundifolius</i> Mert. et W. D. J. Koch ex Fieber, nom. illeg.	<i>P. perfoliatus</i> L.
<i>P. peruvianus</i> C. B. Presl ex A. Benn., nom. inval.	<i>P. nodosus</i> Poir. or. <i>P. linguatus</i> Hagström
<i>P. petiolaris</i> C. B. Presl, nom. illeg.	<i>P. nodosus</i> Poir.
<i>P. praelongus</i> var. <i>brevifolius</i> Čelak.	<i>P. praelongus</i> Wulf.
<i>P. purpurascens</i> Seidl ex J. S. Presl et C. B. Presl	<i>P. alpinus</i> Balb.
<i>P. purpurascens</i> var. <i>angustifolius</i> Tausch ex Fieber	<i>P. alpinus</i> Balb.
<i>P. purpurascens</i> var. <i>lanceolatus</i> (G. F. W. Meyer) Fieber	<i>P. alpinus</i> Balb.
<i>P. purpurascens</i> var. <i>vulgaris</i> Fieber	<i>P. alpinus</i> Balb.
<i>P. pusillus</i> subsp. <i>genuinus</i> Čelak., nom. inval.	<i>P. pusillus</i> L. s. l.
<i>P. pusillus</i> subsp. <i>mucronatus</i> (Schr. ex Sonder) Čelak.	<i>P. friesii</i> Rupr.
<i>P. pusillus</i> var. <i>angustifolius</i> Čelak., nom. inval.	<i>P. pusillus</i> L. s. l.
<i>P. pusillus</i> var. <i>interruptus</i> (Kit. in Schult.) J. S. Presl et C. B. Presl	<i>P. pectinatus</i> L.
<i>P. pusillus</i> var. <i>latifolius</i> Čelak., nom. illeg.	<i>P. friesii</i> Rupr.
<i>P. pusillus</i> var. <i>tenuissimus</i> Čelak., nom. illeg.	<i>P. pusillus</i> L. s. l.
<i>P. rufescens</i> var. <i>angustifolius</i> Tausch ex Fieber, nom. inval.	<i>P. alpinus</i> Balb.
<i>P. rufescens</i> var. <i>submersus</i> Tausch ex Fieber, nom. inval.	<i>P. alpinus</i> Balb.
<i>P. serrulatus</i> Schrad. ex Opiz, nom. nud.	<i>P. crispus</i> L.
<i>P. siculus</i> J. S. Presl	<i>P. pectinatus</i> L.
<i>P. zizii</i> var. <i>elongatus</i> (Mert. et W. D. J. Koch) Fieber	<i>P. xangustifolius</i> J. S. Presl [= <i>P. gramineus</i> L. × <i>P. lucens</i> L.]
<i>P. zizii</i> var. <i>validus</i> Fieber	<i>P. xangustifolius</i> J. S. Presl [= <i>P. gramineus</i> L. × <i>P. lucens</i> L.]
<i>P. Zizii</i> var. <i>validus</i> f. <i>angustifolius</i> Opiz	<i>P. xangustifolius</i> J. S. Presl [= <i>P. gramineus</i> L. × <i>P. lucens</i> L.]
<i>P. Zizii</i> var. <i>validus</i> f. <i>coriaceus</i> Opiz	<i>P. xangustifolius</i> J. S. Presl [= <i>P. gramineus</i> L. × <i>P. lucens</i> L.]