

BIBLIOGRAPHY OF ISOETES

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LIST OF ISOETES SPECIES

In the following list I have integrated the *Isoetes* part of the *Checklist of World Ferns on CDROM* by Michael Hassler (Germany) and Brian Swale (NZ). bj@caverock.net.nz
Distribution data are mostly from Brian's list, with some occasional additions.

Notes: Underlined are names with a link to IPNI (ctrl, click) added recently.

In this list *I. echinospora* is synonymized with *I. setacea* Lam. (Paper in preparation)

Note. LAINZ, M. 1984. *Isoetes*, palabra neutra en Latin, esdrújula. *An. Jard. Bot. Madrid*, 40 (2): 478.

(However it has been latinized in the feminine by Linné, and this gender must be maintained as for *Orchis*).

Isoetes sp. India: Madhya Pradesh: Omkareshwar; undescribed, no specimens = prob. *I. coromandelina*

Isoetes sp. Sumatra. *Flora Malesiana Bull.* 1977, 30: 27-67;

Isoetes sp. nov. (*I. stevensii* auct. non Croft: Croft, 1980) Leach & Osborne, 1985: 45 – New Guinea: Mt. Saruwaged.

Isoetes sp. Lebanon: Beka'a Valley (Musselman on line).

Isoetes abyssinica Chiovenda, *Atti Soc. Nat. e Mat.*, Modena 64: 45-47, ill. (1933) - Ethiopia, Kenya, Tanzania, Eritrea

Isoetes acadiensis Kott, *Canad. J. Bot.* 59: 2592 (1981) [= *Isoetes tuckermanii* ssp. *acadiensis* (Kott) Taylor & Luebke] - E Canada (E Newfoundland, New Brunswick, Nova Scotia), NE USA (Massachusetts, Maine, New Hampshire, New York). Map *Fl. N Amer.*: 70.

Isoetes adspersa A. Braun, 1848 = *I. velata*

Isoetes aequinoctialis Welw. ex A. Braun, *Sitzungsber. Naturf. Fr. Berlin* 7 (1867) [= *Calamaria aequinoctialis* (Welw. ex A. Braun) Kuntze, *Revisio Generum Plantarum* 2: 828 (1891) = *Calamaria nigrilitiana* (A. Braun) Kuntze, *Revisio Generum Plantarum* 2: 828 (1891) -1893 = *Isoetes aequinoctialis* Welw., A. Br. in Kuhn, *Fil. Afr.* 195 (1868) = *Isoetes erongoensis* Wanntorp, *Svensk Bot. Tidskr.* 64: 150, C 5, t. 2, 3 (1970) = *Isoetes garnieri* Chevalier & Monnier, *Bull. Mus. Nation. Hist. Nat. (Paris)* 18(1): 91-979 1 fig (1946) = *Isoetes nigrilitiana* A. Br., *Filices Africanae* 196 (1868)]. - Angola, N Cape Prov., Namibia, Nigeria, Zambia, Zimbabwe, Swaziland, Ghana, Mali, Tanzania, Niger, Central African Republic

Isoetes alata (Pfeiffer) Small = *I. flaccida*

Isoetes alcalophila Halloy, 1980, *Lilloa Rev. bot.* 35 (2): 68-75 - Argentina: Tucumán: Laguna Muerta, 4260 m = *I. escondidensis*

Isoetes algerica A. Braun, 1848 = *I. velata*

Isoetes alpina Kirk, *Trans. N. Z. Inst.* 7: 377, t. 25 (1875) = *Calamaria alpina* (Kirk) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes multiangularis* Col., *Trans. N. Z. Inst.* 22: 449 (1890) - New Zealand (South Isl., North Isl.) = *I. kirkii* var. *alpina*

Isoetes alstonii Reed & Verdcourt, 1965 = *I. schweinfurthii*

Isoetes amazonica (A. Braun) Baker, 1880 (*Calamaria amazonica* Kuntze, *Revis. Gen. Pl.* 2: 828. 1891) - Brazil: Pará: in vicinibus Santarém.

Isoetes amazonica A. Br. = *I. gardneriana*

Isoetes ambigua = *I. setacea* ssp. *braunii*

Isoetes amesii A.A. Eaton = *I. riparia*

Isoetes andicola (Amstutz) L.D. Gómez, *Brenesia* 18: 4, 1980 [*Stylites andicola* Amstutz, 1957, *Ann. Miss. Bot. Gard.* 44 (1): 121; *Isoetes andicola* (Amstutz) H.P. Fuchs, *Proc. Kon. Ned. Akad. Wetensch.* C 84(2): 177 (1981) = *Isoetes andicola* var. *gemmaefera* (Rauh) L.D. Gómez, *Brenesia* 18: 4 (1980) = *Stylites gemmaefera* Rauh, *Sitzungsber. Heidelberg Akad. Wiss. Math. Naturwiss. Kl.* 1959: 11 (1959); cf. Reed, C.F. 1953. *Bol. Soc. Broteriana* 27: 5-72, 28: 5-61 - Andes. Perú: Depto. Lima, prov. Huarochiri supra Casapalca, near Laguna Caprichosa, 4750 m; Puno, Junín. Ill. TRYON, 1982: 831, *Fieldiana Bot.* 34: 90.

Isoetes andina Spruce ex Hook., *British Ferns* ad t. 55 (1861) [= ?*Calamaria triquetra* (A. Braun) Kuntze, *Revisio Generum Plantarum* 2: 828 (1893) = *Isoetes andina* Spruce, Motel. & Vindr., *Actes Soc. L. Bord.* 36. 325 (1883) = ?*Isoetes lechleri* var. *triquetra* (A. Braun) L.D. Gómez, *Brenesia* 18: 5 (1980) = *Isoetes triquetra* A. Br., *Verh. Bot. Ver. Brandenb.* 4: 332 (1862)] - Venezuela, Colombia, Ecuador, ?S Peru. Ill. TRYON, 1982: 831.

Isoetes appalachiana D.F. Brunton & D.M. Britton, 1997. *Rhodora* 99: 118-133.

Isoetes argentina Eaton, 1929 - Argentina. = *I. hieronymii*

Isoetes arumiana Fuchs-Eckert, 1959, nom. nud. (Colombia: Cauca: Lagunilla de Las Casitas, 3700 m) = *I. glacialis* = *I. lechleri*

Isoetes asiatica (Makino) Makino, *Bot. Mag. Tokyo* 28: 184 (1914) [= *Isoetes echinospora* ssp. *asiatica* (Makino) A. Löve = *Isoetes echinospora* var. *asiatica*

- Makino, *Bot. Mag. Tokyo* 18: 129 (1904) (Iversen, *Dansk Bot. Ark.* 5 (23): 2.1928) = *Isoetes muricata* Durieu ssp. *asiatica* (Makino) H.P.Fuchs, *Proc. Kon. Ned. Akad. Wetensch. C* 85(2): 239 (1982) = *Isoetes setacea* Lam. ssp. *asiatica* (Makino) Holub = *I. setacea* Lam. ssp. *asiatica*] - Mongolia, S Kuril Isl., Sakhalin, Kamchatka, Japan, ?China
- Isoetes asturicensis* Lainz, 1970, *Bol. Inst. Estud. Astur. Supl. Ci.* 15: 6, pro ssp. *I. boryanae* = *I. velata* ssp. *velata*
- Isoetes atrovirens* = *I. lacustris*
- Isoetes attenuata*** C. R. Marsden & Chinnock, *Fl. Australia* 48: 704 (1998) - SE South Australia. Map MARSDEN, 1979: 334.
- Isoetes aucacochensis* Fuchs-Eckert, 1981, nom. nud. – Ecuador: Tungurahna: Lake Aucacocha, 3720 m.
- Isoetes australis*** S. Williams, *Proc. Roy. Soc. Edinb.* 62B(1). 1-8 (1943) - SW Western Australia. Map MARSDEN, 1979: 334
- Isoetes azorica*** Dur. ex Milde, *Fil. Eur.*, 278 (1867) [*Calamaria azorica* (Dur.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891)]. Azores. Cf. BRITTON D.M. & D.F. BRUNTON, 1996. Spore morphology and cytology of *Isoetes azorica* and its affinity with North America. *Fern Gazette* 15 (4): 113-118 (ill.).
- Isoetes baculata*** Hickey & H.P.Fuchs, *Syst. Bot.* 11(2): 310 (1986) - Colombia: Rio Vaupés; Brazil. Ill. HICKEY, 1986: 311.
- Isoetes baetica* Willkomm, 1861, *Prodr. Fl. Hisp.* 1 (1): 14. Locus class.: In lacunulis limpidis montis Almoráima prope S. Roque = *I. velata* ssp. *velata*
- Isoetes baptistae* Fuchs-Eckert, 1979, nom. nud. (batistae = err.)– Brasil: Rio Grande do Sul: Rio Tainhas.
- Isoetes beringensis* = *I. maritima*
- Isoetes biafrana*** Alston, *Bol. Soc. Brot.*, ser. 2A, 30: 15, 1956 – Cameroon: Lake Oku, Fernando Po: Lago de Moka.
- Isoetes bilaspurensis* Panigrahi, 1981, *Biol. Mems.* 6 (2): 135 – India: Madhya Pradesh: Bilaspur = *I. coromandelina*
- Isoetes bischlerae*** Fuchs-Eckert, *Proc. Kon. Ned. Akad. Wetensch. C* 85(1): 113, 1982, ill. Locus classicus: Colombia: Boyacá: Páramo de Las Cintas, 3500 m, arroyo, bajo el agua en corriente fuerte – Colombia 3200-3400 m.
- Isoetes bolanderi*** Engelm., *Amer. Nat.* 8: 214 (1874) [= *Calamaria bolanderi* (Engelm.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes bolanderi* var. *parryi* Engelm., *American Naturalist* 8: 214 (1874) = *Isoetes bolanderi* var. *sonnei* L.F. Hend., *Bulletin of the Torrey Botanical Club* 27(6): 358 (1900) = *Isoetes californica* Engelm., *A Manual of Botany of the Northern United States* (ed. 5) 677 (1867) = *Isoetes parryi* Engelm., *Motel. & Vendr., Actes Soc. L. Bord.* 36: 338 (1883). *I. b.* var. *pygmaea* (Engelm.) Clute, *Fern Allies*, 228, 258 (1905) - Nevada, California, Arizona = *Calamaria pygmaea* (Engelm.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes bolanderi* f. *pygmaea* (Engelm.) Clute, *Fern Bull.* 16: 54 (1908) = *Isoetes pygmaea* Engelm., *Amer. Nat.* 8: 214 (1874)] - W Canada (Alberta, British Columbia), W USA (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming), Mexico Map *Fl. N Amer.*: 73, ill.: 71, MUENSCHER: 342. Ill. SWUS 1: 4, MASON: 30.
- Isoetes boliviensis*** Weber, 1922, *Hedwigia* 63: 247-248, fig. 14-15 – Andes of Peru and Bolivia (Oruro, La Paz) 4100-5000 m.
- Isoetes boomii*** Luebke, *Amer. Fern J.* 82: 23, 1992 (*I. georgiana* Luebke, 1992) – USA: Laurens County, Georgia. Ill. *Fl. N Amer.*: 71.
- Isoetes boottii* = *I. setacea* ssp. *braunii*

Isoetes borborensis Fuchs, 1960, nom. nudum – Locus classicus: Brasil: Serra Borborema: Lagoa dos Patos = *I. luetzelburgii*

Isoetes boryana brevis = *I. boryana*

Isoetes boryana condensata = *I. boryana*

Isoetes boryana Durieu de Maisonneuve, 1861, *Bull. Soc. Bot. France* 8 (3): 164 [= *Calamaria boryana* (Dur.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes boryana brevis* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes boryana condensata* Gdgr., *Fl. Eur.* 27: 195 (1891), *Isoetes boryana legitima* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes boryana praetervisa* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes variabilis* ssp. *boryana* (Durieu) P. Fourn., *Quatre Fl. France*: 5 (1934)]. Gascony, endemic. Ill. C & K 1: 52, 59, PRELLI: 83.

Isoetes boryana gredensis Gdgr., *Fl. Eur.* 27: 195 (1891) = *I. velata*, *Isoetes boryana frigida* Gdgr., *Fl. Eur.* 27: 195 (1891)

Isoetes boryana frigida = *I. velata*

Isoetes boryana gredensis = *I. velata*

Isoetes boryana praetervisa = *I. boryana*

Isoetes boryana ssp. *asturicensis* Láinz = *Isoetes velata*

Isoetes boryana var. *lereschii* = *I. velata* ssp. *velata*

Isoetes boyacensis Fuchs-Eckert, *Proc. Kon. Ned. Akad. Wetensch. C Proc. koninkl. nederl. Akad. Wetensch. C* 85 (1): 107-109, 1982, ill. Locus classicus: Colombia: Santander: Páramo de Almozadero, 3900 m; Cundinamarca, Boyacá, Meta, Nariño.

Isoetes brachyglossa Braun = *I. coromandelina*

Isoetes bradei Herter, *Revista Sudamericana de Botánica* 8: 19 (1949) (*Isoetes gardneriana* sensu A.C. Brade) - Brazil: São Paulo.

Isoetes brasiliensis H.P.Fuchs in Reitz, *Fl. ilustr. catarinense, Isoetáceas* (1): 27, 1986, ill. (*I. reitzii* Fuchs-Eckert, 1979) - Brazil: Santa Catarina, Rio Grande do Sul, São Leopoldo 10-30 m.s.m. Map Fuchs, 1986: 29, ill.: 23

Isoetes braunii Durieu = *I. setacea* ssp. *braunii*

Isoetes braunii U. Weber, 1922, nom. nud. Locus classicus: Brasil: Serra dos Orgãos, 2238 m (terrestrial, under overhanging rocks) = *I. organensis* = *I. itatiaiae*

Isoetes brevicula E.R.L.Johnson, *J. Roy. Soc. W. Australia* 67(1): 34 (1984) - SW Western Australia. Map MARSDEN, 1979: 335.

Isoetes brittonii = *I. englemannii* x *I. riparia*

Isoetes bronchonii Moteley, *Actes Soc. Linn. Bordeaux* 45: 45 (1892) - France, Spain (E-Pyrenees) = *I. lacustris*

Isoetes buchtienii Fuchs, 1960 - Bolivia: dpto. La Paz (nom. nud.) = *I. boliviensis* ?

Isoetes butleri Engelm., *Bot. Gaz.* 3: 1 (1878) - SC USA (Oklahoma, Missouri, Arkansas, Kansas, N Alabama, C Tennessee, N Illinois, C Texas, Georgia, Kentucky) = *Calamaria butleri* (Engelm.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes butleri* f. *immaculata* (Engelm.) Clute, *Fern Allies*, 258 (1905) = *Isoetes butleri* var. *immaculata* Engelm., *Trans. St. Louis Acad. Sci.* 4: 388 (1882). Map Fl. N Amer.: 73, MUENSCHER: 342. Ill. Fl. N Amer.: 71.

Isoetes cachukhotaensis Fuchs-Eckert, 1982, nom. nud. Locus classicus: Bolivia: La Paz: Laguna Cachu Khota, 4140 m. Cf. *I. boliviensis*. etc. See 1992: 115.

Isoetes californica = *I. bolanderi*

Isoetes canadensis (Engelm.) A.A.Eaton ex Maxon = *I. riparia*

Isoetes capensis Duthie, *Trans. R. Soc. S. Afr.* 17: 330, 1929 (*Isoetes stephansenii* Duthie, *Trans. Roy. Soc. So. Afr.* 17: 330 (1929), *Isoetes capensis* var.

- stephansenii* (A.V.Duthie) Schelpe & N.C.Anthony, *Bothalia* 15(3-4): 555 (1985)
- Cape Prov.
- Isoetes capillacea* Bory de Saint-Vincent, 1846 (Oran, Algeria) = *I. velata*
- Isoetes capmanni* Engelm., 1883 = *I. chapmannii*
- Isoetes capsularis* Roxb. = Male plant of *Vallisneria spiralis*
- Isoetes carchiensis* Fuchs-Eckert, 1981, nom. nud. Locus classicus: Ecuador: Carchí, Páramo El Angel, 3450-3500 m.
- Isoetes carltaylorii* Musselman (Indian River, Canada) = *Isoetes acadiensis* x *Isoetes engelmannii*
- Isoetes caroli** E.R.L. Johnson, *J. Roy. Soc. W. Australia* 67(1): 34 (1984) - SW Western Australia. Map MARSDEN, 1979: 333.
- Isoetes caroliniana** (A.A. Eaton) Luebke, *Amer. Fern J.* 82: 26 (1992) [*Isoetes engelmannii* var. *caroliniana* A.A. Eaton, *Fern Bulletin* 8: 60 (1900)] - E-USA (North Carolina, Tennessee, Virginia, West Virginia).
- Isoetes castillonii* Fuchs-Eckert, 1965, nom. nud. Locus class.: Argentina: Tucumán: Laguna de la Manza, 4200 m (= *I. escondidensis*)
- Isoetes chaboissaei* Hy, 1894 (Brenne) = *I. velata* ssp. *tenuissima*
- Isoetes chaetureti* E.J. Mendes, *Agron. Lusit.* 23: 7 1961 (Estremadura, Portugal) = *I. histrix*. Remarks: not "*histrix* agg."
- Isoetes chapmani* Small ex Pfeiff. = *I. flaccida*
- Isoetes chilensis* Fuchs-Eckert, 1981, nom. nud.. Locus class.: Argentina: Rio Negro, 800 m – Chile: Coquimbo: Pichindangi, 1000 m, Nahuelbuta 1250 m. (= *I. savatieri*).
- Isoetes chilesensis* Fuchs-Eckert, 1981, nom. nud. Locus class.: Colombia: Nariño, Chiles, 3800 m.
- Isoetes clavata* Weber, *Berichte Deut. Bot. Gesellsch.* 52: 121 (1934) - British Guyana = *I. ovata* Pfeiffer, 1922 = prob. *I. triangula*
- Isoetes cleefii** Fuchs-Eckert, *Proc. koninkl. nederl. Akad. Wetensch.* 84 (2): 177-179, 1981, ill. Locus class.: Colombia: Cundinamarca: Páramo de Sumapaz: Laguna Gobernador, 3815 m – Colombia.
- Isoetes colombiana** (T.C. Palmer) Fuchs-Eckert, *Proc. Kon. Ned. Akad. Wetensch.* C 84(2): 176, 1981 "pro var. *I. lechleri*". *Isoetes lechleri* var. *colombiana* T.C.Palmer *Amer. Fern Journ.* 19: 18 (1929)]. Locus class.: Colombia: Santander: Laguna de Cunta, edge of Páramo de Santurban, 3880 m; Boyacá, Arauca, Cundinamarca.
- Isoetes coreana* Y.H. Chung & H.K. Choi, *Korean J. Pl. Taxon.* 16(1): 2 (1986) - Korea
I. japonica ssp. *sinensis*
- Isoetes coromandelina** L. f., *Suppl. Pl. Syst. Veg.* ed. II: 447 (1781) (*coromandeliana*). Cf. PANT & SRIVASTAVA, 1962, The genus *Isoetes* in India. *Proc. Nat. Inst. Sci. India*, vol. 28, part B: 242-280. Cf. FRASER-JENKINS (1997). **Isoetes coromandelina** ssp. *coromandelina* L. f., *Suppl. Pl. Syst. Veg.* ed. II: 447 (1781) = *Calamaria coromandelina* (L. f.) Kuntze, *Revisio Generum Plantarum* 2: 828 (1891)-1893 [= *Isoetes bilaspurensis* Panigr., *Biol. Mem.* 6 (2): 135. f. 1-10 (1981) [fide Fraser-Jenkins (1997) = *Isoetes brachyglossa* A. Braun, *Verh. Bot. ver. Brandenb* 4 328 (1862) [fide Fraser-Jenkins (1997) = *Isoetes capsularis* Griffith, *Posth. Papers, Cryptog. Pl.* 572-575, t. 116-118 (1849) (non Roxb.); = *Isoetes coromandelina* ssp. *brachyglossa* (A. Braun) Panigr., *Biol. Mem.* 6 (2):

131 (1981) [fide Fraser-Jenkins (1997) = *Isoetes coromandelina* var. *raipurensis* Unni, [fide Fraser-Jenkins (1997) = *Isoetes dixitei* Shende, *Journ. Univ. Bombay* 14: 50 (1945) [fide Fraser-Jenkins (1997) = *Isoetes indica* Pant & Srivastava, *Proc. Nat. Inst. Sci. India* 28 B (3) 246. t. XIV 9 f. 16-259 t. XV f. 30-35 t. XIV f. 30-40 text-fig. 4 A-D, 5 A-H, 7 A-M, 12 (1962) [fide Fraser-Jenkins (1997) = *Isoetes mahadevensis* G.K.Srivast., D.D.Pant & P.K.Shukla, *Amer. Fern J.* 83(4): 106 (1993) [fide Fraser-Jenkins (1997) = *Isoetes mirzapurensis* Panigr. & Dixit, *Proc. Indian Sci. Congr. pt. III, Abstract, Botany* 243 (1965) [fide Fraser-Jenkins (1997) = *Isoetes panchananii* Pant & Srivast., *Proceedings of the National Institute of Science of India, Part B, Biological Sciences* 28: 243, t. 13, 14, f. 1, 2 (1962) [fide Fraser-Jenkins (1997) = *Isoetes panchganiensis* G.K.Srivast., D.D.Pant & P.K.Shukla, *Amer. Fern J.* 83(4): 107 (1993) [fide Fraser-Jenkins (1997) = *Isoetes panchganiensis* var. *kemangundiensis* G.K.Srivast., D.D.Pant & P.K.Shukla, *Amer. Fern J.* 83(4): 114 (1993) [fide Fraser-Jenkins (1997) = *Isoetes pantii* Goswami & Arya, *Journ. Indian Bot. Soc.* 49: 30 (1970) [fide Fraser-Jenkins (1997) = *Isoetes rajasthanensis* Gena & Bhardwaja, *J. Bombay Nat. Hist. Soc.* 81(1): 165 (1984) [fide Fraser-Jenkins (1997) = *Isoetes reticulata* Gena & Bhardwaja, *J. Bombay Nat. Hist. Soc.* 81(1): 166 (1984) [fide Fraser-Jenkins (1997) = *Isoetes sahyadriensis* Mahabale, *Curr. Sci.* 7 (2): 62. f. 1 (1938) (*sahyadrii*) [fide Fraser-Jenkins (1997) = *Isoetes sampathkumarii* L. N. Rao, *Curr. Sci.* 13: 286. f. 1-3 (1944) [fide Fraser-Jenkins (1997) = *Isoetes tuberculata* Gena & Bhardwaja, *J. Bombay Nat. Hist. Soc.* 81(1): 167 (1984) [fide Fraser-Jenkins (1997) *Isoetes semilocularis* J. E. Smith, Rees, *Cyclopaedia* 19: 150 (1819) = *Isoetes unilocularis* Smith] - India (Tamil Nadu, Kerala, Karnataka, Maharashtra, Gujarat, Madhya Pradesh, Uttar Pradesh, Bihar, Orissa, West Bengal), Thailand, Sri Lanka, Vietnam. ***Isoetes coromandelina*** ssp. ***macrotuberculata*** C.R. Marsden, *Contr. Herb. Austral.* 24: 2 (1976) – N Western Australia, Northern Territory, Queensland. Map MARSDEN, 1979: 332.

Isoetes costaricensis Fuchs-Eckert, 1980, nom. nud., pro syn. *I. tryoniana*. Locus class.: Costa Rica: Cordillera de Talamanca: Páramo Buena Vista, 3100 m. (= *I. tryoniana* = *I. storkii*).

Isoetes cristata C. R. Marsden & Chinnock, *Fl. Australia* 48: 704 (1998) - Northern Territory, 10 km south of Jimmy's Creek. Known only from type locality. Map MARSDEN, 1979: 331.

Isoetes cubana Engelm. ex Baker, *Journal of Botany, British and Foreign* 18: 110 (1880) [*Calamaria cubana* (Engelm. ex Baker) Kuntze, *Revisio Generum Plantarum* 2: 828 (1891)]. - Cuba, Mexico (Yucatan), Belize. Ill. TRYON, 1982: 833.

Isoetes cusiyoensis Fuchs-Eckert, 1981, nom. nud. Locus class.: Colombia: Cauca: Laguna de Cusiyo, 3200 m.

Isoetes debii Shukla P.K.; Srivastava G.K.; Shukla S.K., 2002 - northeastern India.

Isoetes decipiens = *I. velata*

Isoetes delalandei = *I. histris*

Isoetes delilei Rothmaler, 1944 (*I. setacea* Bosc ex Delile, non Lam., *Isoetes palustris* var. *setacea* F. Mueller, *Milde, Fil. Eur. & Atl.* 9: 280 (1867) = *Isoetes setacea*

- var. *delilei* Bory, *Compt. Rend. Acad. Paris* 18: 1165 (1844)] *Isoetes setacea liensis*) - SE France, Portugal, W Spain, (? Corsica, Sardinia – records uncertain). Map COOK, 1983: 555. Ill. C & K 1: 52, PRELLI: 83.
- Isoetes dichotoma* L.E.Mora & W.Hagemann *Mutisia* 43: 5, 1977. - Colombia = *I. novogranadensis*
- Isoetes dispora*** Hickey, *Fieldiana*, Bot. 34: 93 (1994) – Peru: Lambayeque, 3300 m. Known from type only.
- Isoetes dixitei* Shende, 1945, *J. Univ. Bombay*, vol. 14: 50-52 - India: Madhya Pradesh: Panchgani, known only from type locality. Ill. loc.: 51 and in PANT & SRIVASTAVA, 1962, The genus *Isoetes* in India. *Proc. Nat. Inst. Sci. India*, vol. 28, p. 275, 276, map 277 = *I. coromandelina*
- Isoetes dodgei* A.A.Eaton = *I. echinospora* x *I. riparia*
- Isoetes dodgei* var. *robbinsii* A.A.Eaton = *I. echinospora* x *I. riparia*
- Isoetes drummondii*** A. Br., *Monatsber. K. Akad. Wiss. Berlin*, 593 (1863). ***Isoetes drummondii*** ssp. ***drummondii*** A. Br., *Monatsber. K. Akad. Wiss. Berlin*, 593 (1863) - New Guinea, Western Australia, South Australia, Victoria, Tasmania = *Calamaria drummondii* (A. Br.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891). **I. d.** ssp. ***anomala*** C.R.Marsden & Chinnock, *Muelleria* 8(1): 58 (1993) - South Australia, Western Australia, Victoria, New South Wales. Maps MARSDEN, 1979: 332, 333, ill. ASTON: 35
- Isoetes dubia* Gennari, 1861, nom. illeg., non Ludwig, 1859 (Isola Maddalena) = *I. velata*
- Isoetes dubia* var. *emersa* = *I. velata*
- Isoetes dubia* var. *maculosa* = *I. velata*
- Isoetes duriaei balearica* = *I. duriaei*
- Isoetes duriaei*** Bory, 1844 *Compt. Rend. Acad. Paris* 18: 1166 (1844) (*I. duriei*, *I. durieui*) [*Calamaria durieui* (Bory) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetella duriaei* Genn., *Comment. Critt. Ital.* 1(3): 115 (1862) = *Isoetes duriaei balearica* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei duriaei* Bory, Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei felix* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei insularis* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei kabylica* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei leptophylla* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei ligustica* DeNot., Kunze, *Ind. Fil. Cult.*, 51 (1850) = *Isoetes duriaei litorea* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei lusitanica* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei maritima* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes duriaei sardoa* Gdgr., *Fl. Eur.* 27: 196 (1891) = *Isoetes ligustica* DeNot., ex A. Br., *Monatsber. K. Akad. Wiss. Berlin*, Sitzung 7 Dec (1863) = *Isoetes tridentata* Dur., ex Kuhn, *Fil. Afr.* 195 (1867)] - France, Portugal, Spain, Balears, Italy, Corsica, Sardinia, Malta, Sicily, Greece, Turkey: Risé (Black Sea), Tunisia, Algeria, Morocco. Ill. C & K 1: 52, 59, PRELLI: 83.
- Isoetes duriaei* Hook. (Guernesey) = *I. histrix*
- Isoetes dusenii* U. Weber, 1920, nom. nud. Locus class.: Brasil: Itatiaia: Serra de Pico Redondo Itatiaia, Rio de Janeiro 2000-2300 m, in streams
- Isoetes eatoni* R.Dodge, *Isoetes eatonii forma gravesii* (A.A.Eaton) C.F.Reed = *I. engelmannii* x *I. echinospora*
- Isoetes echinospora* Durieu, *Bull. Soc. Bot. France* 8: 164 (1861) = *I. setacea* Lam. (*I. setacea* mult. auct. = *I. delilei*)
- Isoetes echinospora* ssp. *asiatica* var. *savilei* Boivin, 1961, *Amer. Fern J.* 51: 85 = *I. setacea* ssp. *asiatica*
- Isoetes echinospora* x *I. riparia* (*I. x eatonii*)

- Isoetes ecuadoriensis** Aspl., *Botaniska Notiser* 1925: 357, f. (1925) – Ecuador: prov. Imbabura in Laculo montis Mojanda, alt. 4000 m.s.m.
- Isoetes ekmanii** U. Weber, *Hedwigia* 63: 251. fig. 26-27 (1922) - Argentina: Buenos Aires, Misiones.
- Isoetes elatior** F. Muell. & A. Br., *Linnaea* 25: 722 (1852) - Australia, Tasmania = *Calamaria elatior* (F. Muell.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes tasmanica* F. Muell., Dur., *Bull. Soc. Bot. Fr.* 11: 104 (1864). Map MARSDEN, 1979: 338.
- Isoetes engelmannii** A. Br., *Flora* 29: 178 (1846) [*Calamaria engelmannii* (A. Br.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) *Isoetes engelmannii* var. *fontana* A.A.Eaton, *Fern Bull.* 13: 52 (1905) = *Isoetes engelmannii* f. *fontana* (Eaton) Clute, *Fern Allies*, 258 (1905) = *Isoetes engelmannii* var. *gracilis* Engelm. in A.Gray *Manual*, ed. 5, 677 (1876) = *Isoetes engelmannii* var. *valida* Engelm. in A.Gray *A Manual of Botany of the Northern United States* (ed. 5) 677 (1867) = *Isoetes lacustris* var. *microspora* Engelm., A. Br., *Flora* 29: 179 (1846) = *Isoetes valida* (Engelm.) Clute, *The Fern Allies* 236 (1905). *Isoetes engelmannii* var. *caroliniana* A.A.Eaton. *Isoetes engelmannii* forma *georgiana* (Engelm.) Clute. *Isoetes engelmannii* var. *georgiana* Engelm., *Transactions of the Academy of Science of St. Louis* 4: 384 (1882) = *Isoetes engelmannii* f. *georgiana* (Engelm.) Clute, *Fern Allies* 258 (1905). - E-Canada (Ontario), E-USA (Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia)]. Map MUENSCHER: 343, Fl. N Amer.: 70. Ill. TAYLOR & HICKEY, 1992: 618, AWP 1: 26, MUENSCHER: 341, AWP 1: 26, CROW & HELLQUIST 1: 26.
- Isoetes engelmannii* x *I. riparia* [*Isoetes brittonii* D.F. Brunton & W.C. Taylor, 1990, *Amer. Fern J.* 80 (3): 82-84 (*I. engelmannii* A.C. H. Braun)]
- Isoetes erongensis** Wanntorp, 1970, *Svensk bot. Tidskr.* 64 (2): 150-152 - Swaziland, Namibia.
- Isoetes escondidensis** Halloy, *Lilloa* 35(2): 67, 1980, *Lilloa*, *Rev. bot.* 35 (2): 67-175, ill. (*I. filipovichii* Fuchs, nom. nud.; *I. castillonii* Fuchs nom. nud., *I. alcalophila* T. Halloy, 1980, *Lilloa*, *Rev. bot.* 35 (2): 68-75; *I. halloyi* Fuchs, nom. nud. *Isoetes filipovichii* Fuchs-Eckert, 1965, nomen nud. – Argentina: Catamarca, Tucumán: Laguna Escondida Media, 4330 m, Laguna Perdida, 4500 m, Laguna Muerta, 4260 m, Laguna de la Manza, 4200 m, Quebrada de los Cazadores, 4500 m.
- Isoetes esbaughii* Hickey & H.P.Fuchs, 1986, *System. Bot.* 11 (2): 310 (*eshbaughii* ?)-Bolivia: Cordillera de Cochabamba, 4420 m. Ill. HICKEY, 1986: 311, 313.
- Isoetes feuereri* Fuchs-Eckert, 1985, nom. nudum. Locus class.: Bolivia: Camacho, 4100 m.
- Isoetes filiformis* Fuchs-Eckert, 1979, nomen nud. Locus class.: Brasil: Rio Grande do Sul: São Leopoldo (= *I. gonzagensis*).
- Isoetes filipovichii* Fuchs-Eckert, 1965, nomen nud. Locus class.: Argentina: Catamarca: Quebrada de Los Cazadores, 4500 m = *I. escondidensis*
- Isoetes flaccida** Shuttlew., A. Br., *Flora* 29: 178 (1846) [*Calamaria flaccida* (Shuttlew.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes alata* Small, *Ferns of Florida* 133 (1918) ?, *apud Pfeiffer, Ann. Mo. Bot. Gard.* 9: 137 (1922) = *Isoetes chapmanii* (Engelm.) Small, *Ferns of Florida*, 222: (1931) 1932 = *Isoetes flaccida* f. *chapmanii* (Engelm.) Clute, *Fern Allies*, 258 (1905) = *Isoetes flaccida* f. *rigida* (Engelm.) Clute, *Fern Allies*, 258 (1905) = *Isoetes flaccida* var. *alata* (Small) N.

Pfeiff., *Annals of the Missouri Botanical Garden* 9(2): 137 (1922) = *Isoetes flaccida* var. *chapmanii* Engelm., *Transactions of the Academy of Science of St. Louis* 4: 386 (1882) = *Isoetes flaccida* var. *rigida* Engelm., *Trans. St. Louis Acad. Sci.* 4: 386 (1882)] - C Florida, N Florida, S Georgia Map MUENSCHER: 343, Fl. N Amer.: 69.

Isoetes fontana = *I. engelmannii*

Isoetes foveolata A.A.Eaton in Dodge. *Isoetes foveolata* var. *plenospora* A.A.Eaton. = *I. tuckermannii* x *I. engelmannii*

Isoetes frigida Croft [ined.] (*Isoetes stevensii* auct. non Croft: Croft (1980) - Only known from around a single small lake on the southern side of Mt Saruwaged. Further collecting may find it in other permanent tarns on the Saruwaged and Bangeta massifs.

Isoetes fuliginosa R.L.Small & Hickey, *Amer. Fern J.* 91(2): 55 (-57, figs. 5-7, 14-15). 2001 [?Aug 2001] – Colombia: Cordillera Central: Lagunilla de las Casitas, 3700 m.

Isoetes fusco-marginata H.P. Fuchs, *Fl. Illustr. Catar.* 1 (Isoetaceas): 12, 1986 (*I. isabellocensis* Fuchs, 1982) - Brazil: Rio Grande do Sul: São Francisco de Paula, 900 m, known only from type locality. Ill. FUCHS, 1986: 14.

Isoetes gardneriana Kunze ex Mett., *Fil. Lechl.* Fasc. 11: 36 (1859) [*Calamaria gardneriana* (Kuntze ex Mett.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) *Calamaria martii* (A. Br.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891), *Calamaria amazonica* (A. Braun acc. Kuhn in Martius) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = Baker, *Journ. Bot.* 18: 109 (1880), *Fl. Bras.* 1 (2): 646, t. 78 (1884), *I. ramboi* auct., *Isoetes ramboi* f. *latifolia* Herter) – Colombia, Brazil: Minas Gerais Rio Grande do Sul: Santa Catarina. (*I. martii*); Rio de Janeiro (Itatiaia: Campo do Silveria – Fuchs-Eckert, 1982: 246). Map FUCHS-ECKERT, 1986: 20, ill.: 14. *I. amazonica* auct. non A. Br.) *Isoetes gardneriana* sensu A.C. Brade = *I. bradei*

Isoetes garnieri = *I. nigrifolia*

Isoetes gemmifera Rauh, 1959 = *I. andicola*

Isoetes georgiana Luebke, *Amer. Fern J.* 82: 14, 1992 = *I. boomii*

Isoetes giessii Launert, 1957, *Mitt. bot. Staatssamml. München* 2: 309 = *I. perrieriana* ? Swaziland, Namibia.

Isoetes gigantea U. Weber, *Nova Hedwigia* 63: 245 (1922) – Brazil: W Bahia, Rio de Janeiro.

Isoetes glacialis Asplund = *I. lechleri* Mett.

Isoetes goebelii H. Christ, ined., in Fuchs-Eckert, 1992: 249) = *I. ovata* Pfeiffer

Isoetes goebelii Weber, *Hedwigia* 63: '247, fig. 16-17 (1922) – Brazil: Paraíba, Rio de Janeiro (in sectio *Isoetes*, Fuchs, 1982)

Isoetes gonzagensis Fuchs-Eckert, 1979, nomen nud. Locus class.: Brasil: Rio Grande do Sul: São Leopoldo (= *I. filiformis*).

Isoetes gracilis = *I. engelmannii*

Isoetes graminifolia Fuchs-Eckert, 1980, nomen nud. Locus class.: Brasil: Mato Grosso (in rapidly flowing water) – Maranhão, Bahia: rio das Ondas, 4 km. N Barreiras, 550 m (Fuchs-Eckert, 1982: 247), Lagoa Itaparica. Map Fuchs-Eckert, 1982 (Cf. *I. vanniellii*, *I. rosselii*)

Isoetes grammontii = *I. velata*

Isoetes gravesii A.A.Eaton = *I. setacea* ssp. *braunii* = *I. setacea*

Isoetes gunnii A. Braun, *Monatsber. Königl. Preuss. Akad. Wiss.* 535 (1868) [*Calamaria gunnii* (A. Br.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes*

- lacustris* (L.) Rodway, *Tasm. Fl.* 279 (1903)] - Tasmania. Map MARSDEN, 1979: 337.
- Isoetes guyanae* U. Weber, nom. nud. (Fuchs-Eckert, 1982). Locus class.: Brasil: Amazonas: Serra do Mel, Rio Branco = *I. triangula*
- Isoetes habbemensis*** Alston, *J. Arn. Arb.* 26, 1945 - Irian Jaya: Mt. Wilhelmina: Lake Habbema, and Papua New Guinea: Star Mts., 3200-3300 m. Map CROFT, 1980: 182 Ill. CROFT, 1980: 178, 185.
- Isoetes hagemannii* Fuchs-Eckert, 1981, nomen nud. Locus class.: Colombia: Nariño: Páramo del Volcán Galeras, 4000-4200 m. = ? *I. novogranadensis*
- Isoetes halloyi* Fuchs-Eckert, 1981, nomen nud. Locus class.: Argentina: Tucumán: Laguna Perdida, 4500 m, Laguna Escondida Media, 4330 m. = *I. escondidensis*
- Isoetes harveyi* A.A.Eaton = *I. lacustris* x *I. tuckermannii*
- Isoetes hawaiiensis*** W.C.Taylor & W.H.Wagner, *Amer. Fern J.* 83(2): 67 (1993) - Hawaii (Maui, Hawaii Isl.)
- Isoetes heldreichii*** Wettst., *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* 36: 239, t. 8 (1886) - C Greece (Paleokastron). Ill. C & K 1: 52, 55.
- Isoetes hemivelata* R.L.Small & Hickey, *Amer. Fern J.* 91(2): 57 (60, figs. 9-11, 16-17). 2001 [?Aug 2001] - Colombia: Cordillera Central, cabeceras de los ríos Tulua y Bugalagrande: Páramo de Las Vegas, 3600-3800 m
- Isoetes herteri* Fuchs, 1960, nom. nud. Locus class.: Uruguay: Dept. de Rocha: Matavillas.
- Isoetes herzogii*** Weber, *Hedwigia* 63: 250, fig. 22-23 (1922) - Perú: Cuzco; Bolivia: Cochabamba.
- Isoetes heterospora* A.A.Eaton, *Fernwort Pap.* 8. 1900 = *I. lacustris*
- Isoetes hewitsonii*** Hickey, *Fieldiana, Bot.* 34: 94, 1994, *Fieldiana* 34: 94 - Andes of Perú: Cajamarca, 3700 m, known only from type loc.
- Isoetes hickeyi* Fuchs-Eckert, 1981, nomen nud. Locus class.: Venezuela: Bolivar: Cima del Roraima.
- Isoetes hickeyi* Taylor & Luebke = *I. echinospora* x *I. lacustris*
- Isoetes hieroglyphica* A.A.Eaton = *I. lacustris*
- Isoetes hieronymi*** Weber, *Hedwigia* 63: 251, fig. 24-25 (1922) (*I. argentina* Eaton & Palmer, *Amer. Fern Journ.* 19: 18 (1929) nom. nud., *I. kanteri* auct. non R. Brown, *I. lechleri* Pfeiffer, 1922, non Mett., *I. socia* auct. non Br.). - Argentina: Córdoba endem.
- Isoetes histrix*** Bory & Dur., *Compt. Rend. Hebd. Séances Acad. Sci.* 18: 1167 (1844) [= *Calamaria hystrix* (Dur.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Cephaloceraton gymnocarpum* Genn., *Comment. Critt. Ital.* 1(3): 113 (1862) = *Cephaloceraton hystrix* Genn., *Comment. Critt. Ital.* 1 (3). 111 (1862) = *Cephaloceraton hystrix* var. *subinermis* (Dur.) Genn., *Comment. Critt. Ital.* 1 (3): 112 (1862) = *Cephaloceraton pseudohystrix* Genn., *Ann. Agric. Sic., An.* XI: 175 (1865) = *Isoetes chaetureti*, Mendes, *Agron. Lusit.* 23: 7 (1961), *Isoetes delalandei* Lloyd, *Notes Fl. Ouest France*: 25 (1851) = *Isoetes duriaei* Hook., *Brit. Ferns*, t. 56 (1861) = *Isoetes histrix* f. *caespitosa* Motel. & Vendr., *Actes Soc. Linn. Bord.* 36: 401 (1883) = *Isoetes histrix* f. *desquamata* (a) *solitaria* A. Br., *Monatsber. K. Akad. Berlin, Sitzung* 7 Dec (1863): 618 (1864) = *Isoetes histrix* f. *desquamata* (b) *caespitosa* A. Br., *Monatsber. K. Akad. Wiss. Berlin, Sitzung* 7 Dec (1863): 618 (1864) = *Isoetes histrix* f. *desquamata* (b) *caespitosa brevispina* A. Br., *Monatsber. K. Akad. Wiss. Berlin, Sitzung* 7 Dec (1863): 618 (1864) = *Isoetes histrix* f. *desquamata* (b) *caespitosa longispina* A. Br., *Monatsber. K.*

Akad. Wiss. Berlin, Sitzung 7 Dec (1863): 618 (1864) = Isoetes histrix f. desquamata (b) caespitosa subinermis A. Br., Monatsber. K. Akad. Wiss. Berlin, Sitzung 7 Dec. (1863): 618 (1864) = Isoetes histrix f. desquamata A. Br., Monatsber. K. Akad. Wiss. Berlin, Sitzung 7 Dec (1863): 617 (1864) = Isoetes histrix f. grandis Motel. & Vendr., Actes Soc. Linn. Bord. 36: 402 (1883) = Isoetes histrix f. loricata (a) grandis A. Br., Monatsber. K. Akad. Wiss. Berlin, Sitzung 7 Dec (1863): 617 (1864) = Isoetes histrix f. loricata (b) nana A. Br., Monatsber. K. Acad. Wiss. Berlin, Sitzung 7 Dec. (1863). 617 (1864) = Isoetes histrix f. loricata A. Br., Monatsber. K. Akad. Wiss. Berlin, Sitzung 7 Dec. (1863): 617 (1864) = Isoetes histrix f. nana Motel. & Vendr., Actes Soc. L. Bord. 36: 402 (1883) = Isoetes histrix f. solitaria Motel. & Vendr., Actes Soc. L. Bord. 36: 401 (1883) = Isoetes histrix f. subinermis Dur. Bull. Soc. Bot. Fr. 8: 164 (1861) = Isoetes histrix f. submersa (Trabut) Maire, Jahandiez & Maire, Cat. Pl. Maroc. 1: 12 (1931) = Isoetes histrix ssp. delalandei (Lloyd) P. Fourn., Quatre Fl. France: 6 (1934) = Isoetes histrix ssp. sicala (Tod.) P. Fourn., Quatre Fl. France: 6 (1934) = Isoetes histrix var. desquamata A. Br., Monatsber. K. Akad. Wiss. Berlin, Sitzung 7 Dec (1863): 617 (1864) = Isoetes histrix var. desquamata A. Br., Batt. & Trab., Fl. Alg. & Tunis. 407 (1902) = Isoetes histrix var. desquamata f. (b) subinermis Dur., Bull. Soc. Bot. Fr. 8: 164 (nomen) (1861) = Isoetes histrix var. desquamata f. longispina (A. Br.) Fiori, Fl. Ital. Crypt., pars V: 425, f. 154 (1943) = Isoetes histrix var. grandis Milde, Batt. & Trab., Fl. Alg. & Tunis., 407 (1902) = Isoetes histrix var. lacunosa Tod., Syn. Pl. Acot. Vasc. Sic., p. 46 (1866) = Isoetes histrix var. loricata A. Br., Monatsber. K. Acad. Wiss. Berlin, Sitzung 7 Dec. (1863): 617 (1863), et Batt. & Trab., Fl. Alg. & Tunis., 407 (1902) = Isoetes histrix var. loricata subvar. armata Batt. & Trab., Fl. Alg. et Tunis., 407 (1902) = Isoetes histrix var. loricata subvar. inermis Batt. & Trab., Fl. Alg. et Tunis., 407 (1902) = Isoetes histrix var. scutellata A. Br. apud A. Br., Monatsber. K. Akad. Wiss. Berlin, Sitzung 7 Dec. (1863): 617 (1864), Arm. Sci. Nat. 2: 371 (1864) = Isoetes histrix var. subinermis Dur., Cesati, Comp. Fl. lt., 25 (1867), et Motel. & Vendr., Actes Soc. L. Bord. 36: 4009 t. 17) f. 1-5 (1883) = Isoetes histrix var. subinermis f. submersa Glück, Pascher, Die Süßwasser-Flora Mitteleuropas 15: 20 (1936) = Isoetes histrix var. submersa Trab., Batt. & Trab., Fl. Alg. & Tunis., 407 (1902) = Isoetes histrix var. typica Fiori & Paoletti, Fl. Anal. Ital. 1: 25 (1896) = Isoetes hystrix algarbiensis Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix arcuata Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix cesatii Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix collina Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix corsica Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix hispanica Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix horridula Gdgr. Fl. Eur. 27: 197 (1891) = Isoetes hystrix longifolia Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix longiseta Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix numidica Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix oceanica Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix oranensis Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix phrygia Gdr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix subinermis Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix todaroi Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix transiens Gdgr., Fl. Eur. 27: 197 (1891) = Isoetes hystrix Wolsey, New Phytol. 11. 5: 45 (1861) = Isoetes phrygia Hausskn., Mitth. Thüring. Bot. Vereins 13: 72 (1899) = Isoetes pseudohystrix Genn., Levier, Barb., Fl. Sardoae Comp., 74, 195 (1885) = Isoetes setacea Moris & DeNotaris, Florula Capr. 161 (1839) = Isoetes sicala Tod., Syn. Pl. Acot. Vasc. Sic., 251 (1866)]. Atlantic Europe: England, Portugal,

Spain, France, Corsica, Sardinia, Malta, Sicily, Italy, former Yugoslavia, Greece, Crete, Aegaeon Isl. Asiatic Turkey (Anatolia), Lebanon, Tunisia, Algeria, Morocco Ill. C & K 1: 52, 59, PRELLI: 83.

Isoetes hookeri A. Braun = *I. humilior*

Isoetes hopei J. R. Croft, *Blumea* 26 (1980) 177-190, map: 182 - Irian Jaya: Mt. Carstenz.. Map Croft, 1980: 179-185 (terrestrial).

Isoetes howellii Engelm., *Trans. Acad. Sci. St. Louis* 4: 385, 1882 [*Isoetes howellii* var. *piperi* Clute *Isoetes melanopoda* var. *californica* A.A. Eaton in Gilbert = *Isoetes melanopoda* var. *californica* A.A. Eaton, *Working List of North American Pteridophytes* 27 (1901) = *Isoetes nuda* Engelm., *Trans. St. Louis Acad. Sci.* 4: 385 (1882) = *Isoetes underwoodii* L.F. Henderson, *Botanical Gazette* 23: 124 (1897)] – S British Columbia, W Montana, Idaho, Washington, Oregon, California to Mexico (Baja California). Map Fl. N Amer.: 74, ill.: 71, Map MUENSCHER: 343. Ill. TAYLOR & HICKEY, 1992: 615.

Isoetes humilior F. Muell. ex A. Br., *Linnaea* 25: 722 (1852) (*I. tasmanica* Durieu, 1864 = *Calamaria humilior* (F. Muell. ex A. Braun) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes hookeri* A. Braun (in *Herb Melbourne* (1866), *Monatsber. K. Akad. Wiss. Berlin*, 538 (1868)] - Central Tasmania. Map MARSDEN, 1979: 338.

Isoetes hyemalis D.F. Brunt. & Britton, *Castanea* 59(1): 13 (1994) - North Carolina, South Carolina, Virginia = *I. saccharata* = *I. riparia*

Isoetes hypsophila Hand.-Mazz., *Anzeiger Acad. Wiss. Wien. Nr.* 13: 95 (1923) - Yunnan

Isoetes hystrix = *I. histrix*

Isoetes immaculata Maire, 1952, pro forma *I. velatae*, ssp. *intermediae* = *I. velata*

Isoetes incerta Hollick, 1928 - Puerto Rico = ?

Isoetes indica Pant & Srivastava, 1962, The genus *Isoetes* in India. *Proc. Nat. Inst. Sci. India*, vol. 28, part B: 242-280 - India: Madhya Pradesh, known from type locality only. Ill. loc. cit. 269-272, map: 277 = *I. coromandelina*

Isoetes inflata E.R.L. Johnson, *J. Roy. Soc. W. Australia* 67(1): 37 (1984) - SW Western Australia. Map MARSDEN, 1979: 335.

Isoetes intermedia (Trabut, pro var. *I. velatae*) Maire & Weiller, 1952, pro ssp. *I. velatae* = *I. velata*

Isoetes isabellocensis Fuchs, 1960, nomen nud. Locus class.: Brasil: Rio de Janeiro: Serra dos Orgãos: Isabellocca, 2000 m. = *I. itatiaiae*, = *I. braunii*

Isoetes itaboensis Fuchs-Eckert, 1981, nomen nud. Locus class.: Paraguay: Río Itabó, near mouth of Río Paraná. (= *I. paranaensis* = *I. gardneriana* ?)

Isoetes itatiaiae G. Herter, nom. nud., pro syn. *I. dusenii*. Locus class.: Brasil: Serra do Itatiaia, 2100 m. = *I. braunii* = *I. isabelloccensis*

Isoetes jaegeri Pitot, *Bull. Inst. Fond. Afr. Noire*, A, 30: 58, f. 1-19 (1968) - Burkina Faso: Haute Volta: plateau de Touziana.

Isoetes jamaicensis Hickey, *Amer. Fern J.* 71(3): 69 (1981) - Jamaica: Harris Savanna.

Isoetes japonica A. Br., *Monatsber. K. Akad. Wiss. Berl.* 1: 459 (1861) = *Calamaria japonica* (A. Br.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes edulis* Sieb. ex Miq., *Prol. Fl. jap.* 390 (1866)-67 - Japan, Yunnan, Korea. **I. j.** ssp. **japonica** - Japan. **I. j.** ssp. **sinensis** Palmer [*Isoetes sinensis* var. *coreana* (Y. H. Chung & H. K. Choi) M. Takamiya & al.] – China: Kiangsu, near Nanking, Korea and S Japan. Maps MARSDEN, 1979: 342, map and ill. KADONO: 8, 10, ill. *Chinese aq.*: 19.

Isoetes jeffreyi = *I. lacustris* x *I. riparia*

Isoetes jsidis U. Weber, nomen nud. Locus class.: Brasil: Rio Grande do Sul: Porto Alegre, 100 a.s.l. Rio Grande do Sul: Porto Alegre, 100 m (= *I. dusenii*)

Isoetes junciformis Brunton D.F., Britton D.M., 1999, *Amer. Fern J.* 89 (3): 187-197 - S Georgia.

Isoetes karstenii A. Braun (Venezuela) (sectio Laeves – Fuchs, 1982) = *I. lechleri*

Isoetes keeleyorum Fuchs-Eckert, 1988, nomen nud. Locus class.: Ecuador: Napo, North of Quito, 3850 m (? = *I. ecuadoriensis*)

Isoetes kersii Wanntorp, 1970, *Svensk bot. Tidskr.* 64 (2): 146 - S Africa: Swaziland, Natal.

Isoetes killipii C.V. Morton, *American Fern Journal* 35: 49 (1945) – Colombia (Páramo de Puracé, Boyacá, Valle, Cauca, Nariño), Venezuela, Ecuador, British Guyana (Mt. Roraima).

Isoetes kirkii A. Br., Monatsber. K. Akad. Wiss. Berlin. 649 (1869) [= *Calamaria kirkii* (A. Br.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891)] - New Zealand (North Isl., South Isl.) **I. k.** var **alpina** Kirk, 1875, **I. k.** var **kirkii**, **I. k.** var **flabellata**. Map MARSDEN, 1979: 339. Ill. JOHNSON & BROOKE: 31, *Aqua-Planta* 2000 (4): 136.

Isoetes kriegei Fuchs-Eckert, 1980, nom. nud. Locus class.: Brasil: Minas Gerais: Parque Nacional do Caparaó, 2400 m.

Isoetes lacustris (L.) Rodway = *I. gunnii*

Isoetes lacustris *circinnata*, *curvifolia*, *echinospora*, *elatior*, *falcata*, *longifolia*, *minor*, *patentissima*, *patula*, *rectifolia*, *recurva*, *recurvata*, *setacea*, *tenella*, *terrestris*, *stricta* = *I. setacea*

Isoetes lacustris Engelm. = *I. lacustris* L.

Isoetes lacustris L. sensu Bert. = *I. setacea*

Isoetes lacustris L. sensu Moris = *I. velata*

Isoetes lacustris L., *Sp. Pl.*: 1100 (1753) [*I. bronchonii*, cf. R. PRELLI & CHR. BOCK, 1989, *Bull. Soc. bot. France* 136: 137-150, and TAYLOR & HICKEY, 1992: 620. Ill. loc. cit.: 619, *I. macrocarpa* Durieu, *I. macrospora* Durieu, = *Calamaria lacustris* (L.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes atrovirens* Th. Fr., *Bot. Not.* (1863): 48 (1865) = *Isoetes harveyi* Eaton, *Fernwort Papers* 2: 11 (1900). = *Isoetes hieroglyphica* A.A. Eaton, *Fernwort Papers* 10 (1900) = *Isoetes lacustris abbreviata* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris arvernensis* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris cambrica* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris editorum* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris* Engelm., *Trans. St. Louis Acad. Sci.* 4: 377 (1882) = *Isoetes lacustris errabunda* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris* f. *curvifolia* subf. *falcata* Tausch, Schmidt, *Unterrichtsanst. Klosters St. johannis zu Hamburg* 1902-03: 74 (1903) = *Isoetes lacustris* f. *echinospora* b. *elatius* Fliche, ex Fiori & Paoletti, *App. Fl. Anal. Ital.* 10 (1907)-08 = *Isoetes lacustris* f. *elatior* Fliche, *Les Isoetes des Vosges*, *Mem. Acad. Stanislas. IV.* 11 (1878): 181 (182) (1879) = *Isoetes lacustris* f. *gemmifera* Mer, *Bull. Soc. Bot. France* 28: 72 (1881) = *Isoetes lacustris* f. *maxima* Alex. Blytt, *Norges Flora* 111 (Suppl.): 1238 (1876) = *Isoetes lacustris* var. *paupercula* Engelm. *Isoetes lacustris* subsp. *paupercula* (Engelm.) Feilberg. *Trans. St. Louis Acad.* 4: 377 (1882) = *Isoetes lacustris* f. *semifalcata* Gay, *Bull. Soc. Bot. France* 10: 423 (1863) = *Isoetes lacustris* f. *stricta* Gay, *Bull. Soc. Bot. France* 10: 392, 424 (1863) = *Isoetes lacustris* f. *subfalcata* Gay, *Bull. Soc. Bot. France* 10: 422 (1863) = *Isoetes lacustris* f. *tenuifolia* A. Br., Milde, *Fil. Eur. & Atl.* 277 (1867) = *Isoetes lacustris* f. *terrestris* Glück, Pascher, *Die Süßwasser-Flora Mitteleuropas* 15: 11, fig. 5 (1936) = *Isoetes lacustris* f. *typica* Fiori & Paoletti, *Fl. Anal. Ital.* 1: 25 (1896) = *Isoetes lacustris lamottei* Gdgr., *Fl.*

Eur. 27: 193 (1891) = *Isoetes lacustris langei* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris latifolia* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris noltei* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris obscura* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris pervaga* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris Pursh*, *Fl. Amer. Sept.* 671 (1814) = *Isoetes lacustris rivalis* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris rossica* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris scanica* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris scotica* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris septentrionalis* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris spreta* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes macrospora* forma *hieroglyphica* (Eaton) N.Pfeiff. = *Isoetes macrospora* f. *hieroglyphica* (A.A. Eaton) N.E. Pfeiffer, *Annals of the Missouri Botanical Garden* 9(2): 194 (1922) *Isoetes lacustris* ssp. *hieroglyphica* (A.A. Eaton) Taylor & Luebke = *Isoetes lacustris* ssp. *lacustris* Hook. f., *Student's Fl. Brit. Isl.*, ed. 1, 471 (1870) = *Isoetes lacustris succedanea* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris suecica* Gdr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris* var. *curvifolia* Glück, *Die Süßwasser-Flora Mitteleuropas* 15: 10 (pro syn.) (1936) = *Isoetes lacustris* var. *falcata* Gay, *Bull. Soc. Bot. Fr.* 10: 386 (1863) = *Isoetes lacustris* var. *humilior* Motel. & Vendr., *Actes Soc. Linn Bord.* 36: 327 (1883) = *Isoetes lacustris* var. *humilis* Mer, *Bull. Soc. Bot. Fr.* 28: 72 (1881) = *Isoetes lacustris* var. *intermedia* Mer, *Bull. Soc. Bot. Fr.* 28: 72 (1881) = *Isoetes lacustris* var. *leiospora* Klinggraff., *Schrift. Nat. Ges. Danzig*, VI. 1: 20 (1884) = *Isoetes lacustris* var. *morei* (Moore) Hooker, J. D., *Student's Fl. Brit. Isl.*, ed. 3, 526 (1884) = *Isoetes lacustris* var. *rectifolia* Caspary, Glück, Pascher, *Die Süßwasser-Flora Mitteleuropas* 15: 10 (1936) = *Isoetes lacustris* var. *recurva* Motel. & Vendr., *Actes Soc. L. Bord.* 36: 327 (1883) = *Isoetes lacustris* var. *setacea* Leman, *Dict. Sci. Nat.* 24: 24 (1822) = *Isoetes lacustris* var. *stricta* (Gay) Mer, *Bull. Soc. Bot. Fr.* 28: 72 (1881) = *Isoetes lacustris* var. *tenuifolia* A. Br. ex Milde, *Sporenpl.* 141 (1865) = *Isoetes lacustris* var. *terrestris* Motel. & Vendr., *Actes Soc. Linn. Bord.* 36: 327 (1883) = *Isoetes lacustris* var. *vulgaris* Casp., Luerß., *Farnpfl.*, 855 (1889) = *Isoetes lacustris vergens* Gdgr., *Fl. Eur.* 27: 193 (1891) = *Isoetes lacustris* x *stricta* Gay, *Bull. Soc. Bot. France* 10: 392, 424 (1863) = *Isoetes leiospora* Klinggraff., *Sehr. Nat. Ges. Danzig* 6 (1): 20 (1884) = *Isoetes macrospora* Dur., *Bull. Soc. Bot. Fr.* 11: 101 (1864) = *Isoetes macrospora* f. *heterospora* (Eaton) Clute, *Fern Bull.* 16: 56 (1908) = *Isoetes heterospora* Eaton, *Fernwort Papers*, 2: 8 (1900) *Isoetes macrospora* var. *heterospora* A.A.Eaton. = *Isoetes macrospora* var. *heterospora* Eaton, *Rhodora* 10: 42 (1908) = *Isoetes morei* D. Moore, *Journ. Bot. Lond.* 16 (n. s. 7): 353, t. 199 (1878) = *Isoetes tuckermani* var. *harveyi* (Eaton) Clute, *Fern Allies*, 226, 227, 260 (1905) *Isoetes tuckermani* var. *heterospora* Clute) = *Isoetes tuckermani* var. *heterospora* (Eaton) Clute, *Fern Allies*, 226, 260 (1905.) - N Europe, C Europe, Austria, Belgium, England, +Bulgaria, former Czechoslovakia, Denmark, Finland, France, Germany, +Greece, Ireland, Switzerland, Netherlands, Spain, Iceland, Norway, Poland, ?Romania, Sweden, N European Russia, Baltic States, C European Russia, W Siberia, C Siberia, (and, disjunct, Japan ?). S Greenland, C Canada, E-Canada (Manitoba, New Brunswick, Labrador, Newfoundland, Nova Scotia, Ontario, Prince Edward Isl., Quebec, Saskatchewan), NE-USA (Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Rhode Island, Tennessee, Vermont, Virginia, Wisconsin) Map HULTÉN & FRIES 1: 5, Fl. N Amer.: 68, ill. C & K 1: 52, PRELLI: 83, Fassett: 46, AWP 1: 26, CROW & HELLQUIST 1: 26.

Isoetes lacustris Pursh. = *I. lacustris* L.
Isoetes lacustris sensu Hook., 1861, *Brit. Ferns* = *I. amazonica* (part), *I. gardneriana* (part)
Isoetes lacustris var. *microspora* = *I. engelmanni*
Isoetes lacustris x *I. riparia* (*I. jeffreyi*)
Isoetes lacustris x *I. tuckermannii* (*I. x harveyi*)
Isoetes laevis U.Weber = *I. lechleri*
Isoetes lancifolia Fuchs-Eckert, 1981, nom. nud. Locus class.: Ecuador: Napo: Laguna .
Isoetes lechleri (Mettenius, *Fil. Lechler.* 2: 36, 1859) A. Braun, 1862 - [*Calamaria lechleri* (Mett.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes glacialis* Asplund, 1926 = *Isoetes laevis* U.Weber *Hedwigia* 63: 252, fig. 30-31 (1922) = *Isoetes peruviana* Weber, *Hedwigia* 63: 246, fig. 12-13 (1922) = *Isoetes socia* A. Br., *Verh. Bot. Ver. Brandenb.* 4: 332 (1862). *Isoetes karstenii* var. *anomala* (T.C.Palmer) R.L. Small & Hickey *American Fern Journal* 22: 130 (1933) (Mt. Chimborazo); *Isoetes arumiana* Fuchs, 1959, nom. nud. (Colombia: Cauca: Lagunilla de Las Casitas, 3700 m); *I. steyermarkii* Fuchs, 1960 (nom. nud.); = *Isoetes karstenii* A.Braun, *Verh. Bot. Ver. Brandenb.* 4: 332 (1862), *I. lechleri* var. *karstenii*, *Isoetes lechleri* var. *triquetra* A. Br., 1862)]. Andes, from Venezuela (Mérida): Colombia (Santander, Huila, Cauca, Arauca, Boyacá, Meta, Cundinamarca), Ecuador (Chimborazo, Pinchincha, Napo), Bolivia (La Paz) to Perú (Junín, Puno, Ayacucho, Ancashi) 2400- 4750 m. - Ill. TRYON, 1982: 831.
Isoetes lechleri Pfeiffer, 1922, *Ann. Missouri Bot. Garden* 9 (2): 138 = *I. hieronymi* Weber
Isoetes lechleri var. *colombiana* T.C.Palmer = *I. colombiana*
Isoetes lechleri var. *karsteni* A. Braun, 1862 – Venezuela: mountains of Mérida, 2400 m.
Isoetes lechleri var. *savatieri* (Franch.) L.D.Gomez = *I. savatieri*
Isoetes lechleri var. *triquetra* (A.Br.) L.D.Gomez = *I. triquetra*
Isoetes leiospora Klingraff = *I. lacustris*
Isoetes leistii Fuchs-Eckert, 1981, nomen nud. Locus class.: Colombia: Nariño: Cumbal: Laguna de Bolsa, 3400 m (? = *I. novogranadensis*)
Isoetes lereschii Reich., 1881 (pro var. *I. boryanae*) = *I. velata* ssp. *velata*
Isoetes lineolata = *I. velata* *adspersa*
Isoetes lithophila Pfeiffer, *Ann. Missouri Bot. Gard.* 9: 135 (1922) (*I. lithophylla*) - SC Texas: Edwards Plateau (Burnett Co., Mason Co., Llano Co.). Ill. *Fl. N Amer.*: 71, SWUS 1: 38.
Isoetes longissima Bory de Saint-Vincent & Durieu de Maisonneuve, 1844, *Comptes-R. hebd. Séances Acad. Sc. Paris* 18: (1165). Locus classicus: dans une des mares des forêts qui environnent le lac Houbéria au canton de La Calle (= El Kala, Algeria) = *I. velata* ssp. *longissima*
Isoetes louisianensis John W. Thieret, *Sida* 5: 129, 1973, *Sida, Contrib. Bot.* 5: 129. SE Louisiana: Washington Parish. - SE USA. (*I. louisianensis* may represent *I. engelmannii* x *melanopoda* – *Fl. N Amer.*: 71).
Isoetes luetzelburgii Weber ex Luetzelburg, *Estud. Bot. Nordeste* 3: 257 (no date = 1926) (*Isoetes borboremensis* Fuchs, 1960, nom. nudum) - Brazil: Rio Grande do Norte; Parahiba do Norte, Serra do Borborema: Lagoa dos Patos. Map Fuchs-Eckert, 1982
Isoetes macounii A.A.Eaton = *I. maritima* = *I. setacea* ssp. *asiatica*
Isoetes macrospora Durieu, 1864 = *I. lacustris* L.
Isoetes macrospora fa. *hieroglyphica* = *I. lacustris*

Isoetes macrospora fa. *paupercula* = *I. occidentalis*

Isoetes mahadevensis Sristava, Pant & Shukla – India: Madhya Pradesh = *I. coromandelina*

Isoetes malinverniana Cesati & De Not., *Index Sem. Hort. Genuensis* 1858: 36 (1858) [= *Calamaria malinverniana* (Ces. & De Not.) Kuntze, *Revisio Generum Plantarum* 2: 828 (1891) 1893 = *Isoetes malinverniana* f. *terrestris* Glück, Pascher, *Die Süßwasser-Flora Mitteleuropas* 15: 14, fig. 7 (1936)] - NW Italy Vercelli, Novara, Torino. Map COOK, 1983: 560. Ill. C & K 1: 52, 55, Datz 48 (8): 526-529. Cf. SCHNELLER, J.J., 1982. Cytological investigations on *Isoetes malinverniana*. *Webbia* 35 (2): 307-309.

Isoetes maritima Underw., *Bot. Gaz.* 13: 94 (1888) = *Isoetes beringensis* Komarov, *Bull. Jard. Bot. Acad. Sci. U. S. S. R.* 30 (1-2): 196 (1932) [= *Isoetes echinospora* subsp. *maritima* (Underw.) A.Löve, *Isoetes muricata* subsp. *maritima* (Underw.) Hultén, *I. setacea* ssp. *maritima* (Underw.) Holub, 1964, *Acta Horti bot. prag.*: 55, = *Isoetes echinospora* ssp. *maritima* (Underw.) A. Löve, *Isoetes echinospora* forma *maritima* (Underw.) Clute, *Isoetes echinospora* var. *maritima* (Underw.) A.A.Eaton, *Fern Bull.* 13: 52 (1905), *Isoetes braunii* var. *maritima* (Underw.) Pfeiffer, *Ann. Mo. Bot. Gard.* 9: 174 (1922) = *Isoetes echinospora* var. *braunii* f. *maritima* (Underw.) Clute, *Fern Bull.* 16: 55 (1908) *Isoetes echinospora* var. *hesperia* (Reed) A.Löve., = *Isoetes echinospora* var. *savilei* Boivin = *Isoetes macounii* Eaton, *Fern Bull.* 8: 12 (1900) = *Isoetes muricata* ssp. *maritima* (Underw.) Hult.] - Commander Isl., Aleutes, Alaska, W Canada (Vancouver Isl., British Columbia), NW USA (Washington).

Isoetes martii A. Br., ex Kuhn = *I. smithii*

Isoetes martii A. Br., ex Kuhn in Martius, *Fl. Bras.* 1 (2): 646, t. 78 (1884)

Isoetes martii sensu Ule = *I. triangula*

Isoetes mattaponica Musselman & W.C.Taylor, *Novon* 11(2): 200 (-204, figs. 1-6).

2001 [10 Jul 2001] - Mattaponi River, plants in Pontederia-Nuphar marsh, along a tidal shore of the Mattaponi River, ca. 0.75 km S of Aylett.

Isoetes maxima Sehnem, nom. nud. Locus class. Brasil: Rio Grande do Sul, Camará: Fortaleza, 1200 m.

Isoetes melanopoda Gay & Dur., *Bull. Soc. Bot. France* 11: 102 (1864) [*Isoetes virginica* Pfeiffer, *Claytonia* 3: 29 (1937) N Georgia, W South Carolina, C Virginia, NE-Alabama, *Isoetes virginica* var. *piedmontana* N.Pfeiff. = *Calamaria melanopoda* (Gay & Dur.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes melanopoda* f. *californica* (Eaton) Clute, *Fern Allies*, 260 (1905)]. *I. m.* f. *pallida* (Engelm.) Fernald, *Isoetes melanopoda* var. *pallida* Engelm. *Trans. St. Louis Acad. Sci.* 4: 387 (1882). - C USA (Arkansas, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, North Carolina, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia)] [*Isoetes virginica* Pfeiffer, *Claytonia* 3: 29 (1937) N Georgia, W South Carolina, C Virginia, NE-Alabama, Ill. Fl. N Amer.: 71, SWUS 1: 38, AWP 1: 26, CROW & HELLQUIST 1: 26.

Isoetes melanopoda var. *californica* A.A.Eaton in Gilbert = *I. howellii*

Isoetes melanospora Engelm., *Trans. Acad. Sci. St. Louis* 3: 395 (1877) = *Calamaria melanospora* (Engelm.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891). - C Georgia, South Carolina (Lancaster Co.). Ill. Fl. N Amer.: 71.

Isoetes melanotheca Alston, *Bol. Soc. Brot.*, sér. 2A, 30: 15 (1956) (*I. melanothes* = err.?) – Guinea.

- Isoetes mexicana** Underw., *Botanical Gazette* 13: 93 (1888) [= *Isoetes montezumae* A. A. Eaton, *Fern Bulletin* 5(2): 25 (1897)] - N Guatemala, Mexico (Chihuahua, Hidalgo, Morelos, Chiapas, Nayarit, Zacatecas, Aguascalientes, ?Guanajuato, Jalisco, Mexico State, Durango)
- Isoetes meyeri* Fuchs-Eckert, 1965, nom. nud. Locus class.: Argentina: Río Negro: Bariloche: Cascada del Río Manzo = *I. savatieri*
- Isoetes microspora* = *I. engelmanni*
- Isoetes microvela** D.F. Brunt & D.M. Britton, *Rhodora* 100 (903): 270-275, f. 1-3, 4e-h, 5 (1998) - Coastal SE USA.
- Isoetes minima** A.A.Eaton, *Fern Bulletin* 6: 30 (1898) [*Isoetes howellii* var. *minima* (Eaton) N.Pfeiff., *Annals of the Missouri Botanical Garden* 9(2): 142 (1922), *Isoetes howellii* var. *minima* Pfeiffer] - Washington state, British Columbia. (Valid species, see *Botanical Electronic News* No. 269, June 2, 2001, and W. Carl Taylor, Neil T. Luebke, & Angel R. Lekschas, Taxonomic status and evolutionary relationship of *Isoetes minima* a. a. eaton (Isoetaceae) based on nuclear ribosomal DNA internal transcribed spacer sequences, *ibid.* No. 304, March 6, 2003.
- Isoetes minuata* J. Drummond, 1846, in litt. ad W.J. Hooker (type lost). Locus class.: Western Australia: vicinity of Wangan.
- Isoetes mirzapurensis* Panigrahi & Dixit, 1965 - India: Uttar Pradesh: Mirzapur district = *I. coromandelina*
- Isoetes mongerensis** E.R.L. Johnson, *J. Roy. Soc. SW. Australia* 67(1): 39 (1984) - SW Western Australia. Map MARSDEN, 1979: 336.
- Isoetes montana* T.C. Palmer, 1931 = *I. storkii*
- Isoetes montana* T.C.Palmer = *I. storkii* Palmer
- Isoetes montana** Weber, *Hedwigia* 63: 254, fig. 38-39 (1922) "Andes" (non Lam., non Palmer, 1931).
- Isoetes montezumae* A.A.Eaton = *I. mexicana*
- Isoetes muelleri** A. Br., *Monatsber. K. Akad. Wiss. Berlin* 541 (1868) [= *Calamaria muelleri* (A. Braun) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes stuartii* A. Br., *Monatsber. K. Akad. Wiss. Berlin*, 539 (1868) = *Isoetes tenuissima* F. Muell., 1868 (non Boreau) - All Australia and Tasmania. Map MARSDEN, 1979: 331.
- Isoetes multiangularis* = *I. kirkii*
- Isoetes muricata* Durieu = *I. setacea*
- Isoetes muricata* ssp. *asiatica* = *I. setacea* ssp. *asiatica*
- Isoetes muricata* ssp. *truncata* = *I. setacea* var. *maritima*
- Isoetes nana* (Herter) Fuchs-Eckert, 1981 - Brasil: Serra do Itatiaia: Agulhas Negras, 2600 m = *I. dusenii*
- Isoetes natalensis* Baker, 1887 = *I. welwitschii*
- Isoetes narinensis* Fuchs-Eckert, 1981, nom. nud.. Locus class.: Colombia: Nariño: Cumbal: Laguna de Bolsa, 3400 m, also Laguna de Cumbal, 3500 m, Ecuador: Pichincha: Páramo de Guamani, Lojo, 2865 m, Napo-Pastaza, Cordillera de Los Llanganati, 3700 m = ? *I. novogranadensis*
- Isoetes neoguineensis** Baker ex F. v. M., *Ann. Rep. Brit. N. Guinea* 1897-8 (1898) 149 [= *Isoetes neoguineensis* Baker, Sadebeck, *Nat. Pfl.-fam.* 1 (4): 776 (1902). *I. n.* var. *rheophila* J. R. Croft, *Blumea* 26 (1980) 177-190, ill. 189 "Subsequent collections (Croft in press) have revealed intermediates between the two extremes so the variety can no longer be maintained, a decision foreshadowed by Marsden (1979)] - Papua New Guinea: Owen Stanley Ranges, 2800-4000 m (twice found). Map CROFT, 1980: 182, ill.: 187.
- Isoetes nigritiana** A.Br. ex Kuhn, 1868 (*I. garnieri* Chevalier & Monnier, 1946) -

Sudan: Bamako, Mali, Nigeria, Centrafrique, Ivory Coast. Ill.: *Bull. Inst. Franç. Afrique noire*, tome 16: 318, 1954.

Isoetes novogranadensis H.P. Fuchs, *Caldasia* 8: 314, 1969 [= *Isoetes dichotoma* L.E. Mora & W. Hagemann, *Mutisia* 43: 5 (1977)] - Venezuela: (Mérida), Colombia (Valle, Huila, Cauca) - Andes. Colombia: Putumayo, Páramo de San Antonio del Bordoncillo, 3250 m to Peru, 3500-3600 m.

Isoetes nuda = *I. howellii*

Isoetes nuttallii A. Braun ex Engelm., *Amer. Naturalist* 8: 215 (1874) [= *Calamaria nuttallii* (A. Braun in Engelm.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Calamaria suksdorfii* (Baker) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes opaca* Nuttall, ex Engelm., *Trans. St. Louis Acad. i.* 4: 388 (1882) = *Isoetes suksdorfii* Baker, *Handbook of the Fern-Allies* 132 (1887) - W USA (California, Oregon, Washington), W Canada (Vancouver Isl.), E Asia. Map *Fl. N Amer.*: 74, ill.: 71, TAYLOR & HICKEY, 1992: 615.

Isoetes occidentalis Hend., *Bull. Torr. Bot. Cl.* 27: 358 (1900) [= *Isoetes echinospora* var. *braunii* f. *flettii* (Eaton) Clute, *Fern Bull.* 16: 55 (1908) = *Isoetes echinospora* var. *flettii* A.A. Eaton, *Fern Bulletin* 13: 51 (1905) = *Isoetes flettii* (A.A. Eaton) N.E. Pfeiffer, *Annals of the Missouri Botanical Garden* 9(2): 186 (1922) = [Isoetes lacustris var. paupercula Engelm.](#) [Isoetes lacustris subsp. paupercula \(Engelm.\) Feilberg.](#) *Trans. St. Louis Acad.* 4: 377 (1882), *Isoetes maritima* var. *flettii* (A.A.Eaton) C.F.Reed. *Isoetes echinospora* forma *flettii* (A.A.Eaton) Clute. *Isoetes echinospora* var. *flettii* A. A. Eaton. (I. "flettii" has been attributed to both *maritima* and *occidentalis*) = *Isoetes piperi* Eaton, *Fern Bull.* 11: 85 (nom. nud.) (1903), 13: 51 (1905), *Isoetes howellii* f. *piperi* (Eaton) Clute, *Fern Bull.* 16: 56 (1908) = *Isoetes howellii* var. *piperi* (Eaton) Clute, *Fern Allies*, 246, 258 (1905) = *Isoetes occidentalis* var. *piperi* A.Nelson & J.F.Macbr. *Isoetes lacustris* var. *paupercula* Engelm., *Transactions of the Academy of Science of St. Louis* 4: 377 (1882) = *Isoetes macrospora* f. *paupercula* (Engelm.) Clute, *Fern Bull.* 16: 56 (1908) = *Isoetes maritima* var. *flettii* (Eaton) Reed, *Amer. Fern Journ.* 35: 85 (1945) = *Isoetes occidentalis* ssp. *paupercula* (Engelm.) Feilberg, *Nordic J. Bot.* 4(2): 155 (1984) = *Isoetes occidentalis* var. *piperi* (A.A. Eaton) A. Nelson & J.F. Macbr., *Botanical Gazette* 61(1): 30 (1916) = *Isoetes paupercula* (Engelm.) A.A. Eaton, *Proceedings of the United States National Museum* 23(1226): 649 (1901)] - Aleutes, Alaska, W Canada (British Columbia), NW USA (Washington, Oregon, C California, Idaho, Montana, Wyoming, Colorado) Map *Fl. N Amer.*: 73, ill.: 71. (See *I. lacustris* and *I. maritima*)

Isoetes olympica A. Braun, Milde, *Pl. Eur.*: 285 (1867) - Asiatic Turkey (Anatolia), S Syria. Remarks: *histris* agg. = *Calamaria olympica* (A. Braun in Milde) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891)

Isoetes opaca = *I. nuttallii*

Isoetes orcuttii Eaton, *Fern Bull.* 6: 30 (1898) (nom. nud.), 8: 13 (1900) *Isoetes nuttallii* var. *ocutti* (A.A. Eaton) Clute, *The Fern Allies* 253 (1905). - C California to Baja California. Map *Fl. N Amer.*: 75, ill.: 71.

Isoetes organensis U. Weber, apud Luetzelburg 1926 -

Isoetes organensis Weber, Luetzelburg, *Estud. Bot. Nordeste* 3: 256 (no date = 1923) - Brazil: Serra dos Orgãos: Morro Açu, 2238 m (in Fuchs-Eckert, 1982: 246) (? = *I. braunii*, ? = *I. isabelloccensis* ? = *I. itatiaiae*)

Isoetes ovalifolia H.P. Fuchs-Eckert & Hickey, 1981, nom. nud. Locus class: Perú: Junín Cerro de Pasco, 4300 m. (= see *I. asplundii*)

Isoetes ovata Pfeiffer, *Annals of the Missouri Botanical Garden* 8(2): 109 (27 Nov. 1922); loc. class.: British Guiana: pools by shore of Mazaruni River, Demerara, Dec 1890; *Isoetes clavata* Weber, *Berichte Deut. Bot. Gesellsch.* 52: 121 (1934); *Isoetes goebelii* H. Christ = prob. *I. triangula*

Isoetes ovata V. Vareschi, 1968, *Fl. Venezuela* 1 (1): 110 (non Pfeiffer, 1922). [*I. triangula* Weber, 1922; (= ? *I. schinzii* Fuchs, 1960 nom. nud.)]

Isoetes pacifica Svenson 1944, *Amer. Fern. J.* 34 (4): 123 = *I. panamensis*

Isoetes pallida Hickey, *Amer. Fern J.* 78(1): 35 (1988) - Mexico (Oaxaca)

Isoetes palmeri H.P.Fuchs, *Proc. Kon. Ned. Akad. Wetensch. C* 84(2): 168 (1981) - Venezuela: Mérida: Laguna Grande de Apartaderos; Colombia: Cundinamarca, Boyacá, Cauca, Meta; Ecuador: Chimborazo.

Isoetes panamensis Maxon & C.V. Morton, *Annals of the Missouri Botanical Garden* 26(4): 272 (1939) [= *Isoetes pacifica* Svenson, *American Fern Journal* 34: 123 (1944) *Isoetes savannarum* L.D.Gomez-Pignataro, *Phytologia* 49(4): 339 (1981)] - Costa Rica: Guanacaste, inmediateionem Crucis, propre loco Tanques dicto, ca. 200 m, Panama, Guatemala, Colombia, Ecuador (Guyabas, at base of Chanduy Mts), E-Peru (Tumbes) (up to 1500 m).

Isoetes panchananii Pant & Srivastava, 1962, The genus *Isoetes* in India. *Proc. Nat. Inst. Sci. India*, vol. 28, part B: 242-280 - India: Madhya Pradesh: Rewa. Ill. loc. cit. 266, 267, map: 277 = *I. coromandelina*

Isoetes panchangiensis Sristava, Pant & Shukla – Maharashtra, Karnataka. *I. p.* ssp. *kemangundiensis* Srivastava, Pant & Shukla – Karnataka = *I. coromandelina*

Isoetes pantii Goswani & Arya, 1968 – Madhya Pradesh: Narsinghgarh, 80 km from Bhopal. Ill. loc. cit.: 36 = *I. coromandelina*

Isoetes paraguayensis, 1960, nom. nud. Locus class.: Paraguay: Caaguazú: Guarapi, also: Pilcomayo and dept. Central.

Isoetes paranaensis Fuchs, 1960, nom. nud. Locus class.: Argentina: Buenos Aires: Correa: delta del Paraná

Isoetes parryi = *I. bolanderi*

Isoetes parvula Hickey, *Fieldiana, Bot.* 34: 92 (1994) - Peru: Ayacucho. Known from type only.

Isoetes paupercula (Engelm.) A.A.Eaton = *I. occidentalis*

Isoetes pedersenii Fuchs-Eckert ex Hickey, 1980, nom. nud. Locus class.: Argentina: Corrientes: Depto Mburucuyá: Estancia Santa Maria. ? Bolivia (= *I. paraguayensis*)

Isoetes perralderiana Milde, *Fil. Eur. Atlant.*, p. 282, 1867 = *I. velata* ssp. *perralderiana*

Isoetes perreymondi = *I. velata*

Isoetes perrieriana Iversen, *Dansk Botanisk Arkiv* 7: 200-201 (1932) [= *Isoetes giessii* Launert, *Mitt. bot. Staatssamml. München* 2: 309 (1957) - Madagascar, SW Africa, Swaziland, Namibia

Isoetes peruviana U.Weber = *I. lechleri*

Isoetes phaeospora Durieu = *I. tripus*

Isoetes philippinensis Merrill & Perry, *Am. Fern Journ.* 30 (1940) 19, fig. - Philippines (Mindanao) Map MARSDEN, 1979: 342

Isoetes phrygia = *I. hystrix*

Isoetes pichichensis Fuchs-Eckert, 1981, nom. nud. Locus class.: Ecuador: Pichincha, 4000 m. Also: Ecuador: Chimborazo, 3700 m, Volcán Chiles, 3900-4050 m, Páramo El Angel, 3750-3850, Colombia: Nariño, 4000-4100 m = ? *I. novogranadensis*

Isoetes piedmontana (N. Pfeiffer) C. Reed = *I. melanopoda*
Isoetes pilularioides Fuchs-Eckert, 1981, nom. nud. Locus class.: Brazil: Porto Alegre: Vila Manresa, ca 250 m.
Isoetes piperi A.A.Eaton = *I. occidentalis*
Isoetes pitotii Alston, *Bol. Soc. Broter.*, 2A, 30: 15 (1956) - Mali, Guinea
Isoetes precocia R.L. Small & Hickey *Amer. Fern J.* 91(2): 61 (-62, figs. 12-13, 18-19). 2001 [?Aug 2001] – Venezuela: Sierra de St. Domingo, Páramo de Mucubají, road to Laguna Negra, ca. 3500 m
Isoetes pringlei Underw., *Zoë* 1: 98 (1890) - Mexico (Jalisco, Mexico State)
Isoetes prototypus D.M. Britton, *Canad. J. Bot.* 69: 278 (1991) - E-Canada (Nova Scotia, New Brunswick), NE-USA (Maine)
Isoetes pseudojaponica M. Takamiya, Watan. & Ono, 1998 – Japan.
Isoetes pusilla C.R.Marsden & R.J.Chinnock, *Muelleria* 8(1): 57 (1993) – Victoria. Map MARSDEN, 1979: 334
Isoetes pygmaea Engelm. = *I. bolanderi*
Isoetes quilindanensis Fuchs-Eckert, 1981, nom. nud.. Locus class.: Ecuador: Napo: Cordillera Oriental, small streams around Laguna Verdecocha = prob. *I. novogranadensis*
Isoetes rajasthanensis Gena & Bhardwaja, 1984. *J. Bombay Nat. Hist. Soc.* 81: 165-168 - India: Rajasthan: Mt. Abu, Mainal. Ill. loc. cit.:165 = *I. coromandelina*
Isoetes ramboi f. *latifolia* Herter = *I. smithii* or *gardneriana*
Isoetes ramboi G. Herter, *Rev. Sudamer. Bot.* 8 (1-2): 19-25, 1949 - Brazil: Rio Grande do Sul. Ill. Fuchs, 1986: 23 = *I. smithii*
Isoetes rauhii Fuchs, 1960, nom. nud. Locus class.: Peru: Ancash: Cordillera Raura, 4500 m. Also: Cajamarca: Laguna Las Compuertas, Junín: prov. Yauli, 4800 m, Bolivia: Cochabamba: prov. Ayopaya, 3060 m.
Isoetes regulensis = *I. velata*
Isoetes reitzii Fuchs-Eckert, 1979, nom. nud. pro syn. *I. brasiliensis*. Locus class.: Brasil: São Leopoldo: Capao da Lagoa, 30 m = *I. brasiliensis*
Isoetes reticulata Gena & Bhardwaja, 1983. *J. Bombay Nat. Hist. Soc.* 81: 165-168 - India: Rajasthan: Atru, Ajmer, Jhalawar. Ill. loc. cit.:165 = *I. coromandelina*
Isoetes rhodesiana Alston, 1956, *Bol. Soc. broter.*, ser. 2, 30: 17. – Zimbabwe: Bongola.
Isoetes rimbachiana Fuchs-Eckert, *Proc. Kon. Ned. Akad. Wetensch.* C 85(2): 226 1982, *Proc. koninkl. nederl. Akad. Wetensch.* 85 (2): 226. Locus class.: Ecuador: Mount Chimborazo; Pinchincha, Napo = *I. lechleri*
Isoetes riparia Engelm. ex A. Br., *Flora (Regensb. Bot. Zeit.)* 29: 178 (1846) = *Calamaria riparia* (Engelm. ex A. Br.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes foveolata* var. *plenospora* Eaton, *Rhodora* 5: 280 (1903) - E-Canada (S Quebec, S Ontario), NE-USA (Connecticut, Delaware, Florida, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, West Virginia) Map. Fl. N Amer.: 71. Ill. Fassett: 46, AWP 1: 26, TAYLOR & HICKEY, 1992: 618, CROW & HELLQUIST 1: 26. Map. ***Isoetes riparia* var. *riparia* Proctor**, *Amer. Fern Journ.* 39: 119 (1949) *Isoetes riparia* var. *typica* Proctor, *Amer. Fern Journ.* 39: 119-121 (1949). ***Isoetes saccharata* var. *amesii* (A.A.Eaton)** Proctor, *Amer. Fern Journ.* 39: 119 (1949) - E-Massachusetts, Connecticut, New York = *Calamaria saccharata* (Engelm.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes amesii* Eaton, Gilbert, *Fern Bull.* 11: 103, 1903 = *Isoetes canadensis* var. *amesii* (Eaton) Clute, *Fern Bull.* 16: 54 (1908) = *Isoetes riparia* forma *saccharata*

- (Engelm. ex A. Gray) Proctor, *Isoetes riparia* var. *palmeri* f. *saccharata* (Engelm.) Proctor, *Amer. Fern Journ.* 39: 119 (1949) = *Isoetes saccharata* Engelm., *Gray's Manual*, ed. 5, 676 (1867) = *Isoetes saccharata* var. *amesii* A.A. Eaton, *Rhodora* 5(59): 278-279 (1903), *Isoetes hyemalis* D.F.Brun. & Britton, 1994 . **Isoetes riparia var. canadensis Engelm. ex N.Pfeiff.** *Trans. St. Louis Acad. Sci.* 4: 383 (1882) - S Canada, NE-USA (New England, to, Delaware River) = *Isoetes canadensis* (Engelm.) A.A. Eaton, *Proceedings of the United States National Museum* 23(1226): 650 (1901) = *Isoetes dodgei* Eaton, *Fern Bull.* 6: 6 (1898) **Isoetes riparia forma canadensis (Engelm.) Proctor.** = *Isoetes riparia* var. *robbinsii* f. *canadensis* (Engelm. ex Pfeiffer) Proctor, *Amer. Fern Journ.* 39: 119 (1949), **Isoetes saccharata var. palmeri (A.A.Eaton)** Proctor, *Amer. Fern Journ.* 39: 119 (1949) - Maryland = *Isoetes riparia* f. *saccharata* (Engelm.) Clute, *Fern. Bull.* 16: 57 (1908) = *Isoetes saccharata* f. *palmeri* Eaton, *Fern Bull.* 11 : 25 (1903) = *Isoetes saccharata* var. *palmeri* A.A. Eaton, *Proceedings of the Biological Society of Washington* 14(10) 49 (1901). **Isoetes saccharata var. reticulata A.A.Eaton)** Proctor, *Amer. Fern Journ.* 39: 119 (1949) - SW Chesapeake Bay estuaries, northeast to lower Delaware River = *Isoetes saccharata* f. *reticulata* Eaton, *Fern Bull.* 11 : 25 (1903) = *Isoetes saccharata* var. *reticulata* A.A. Eaton, *Proceedings of the Biological Society of Washington* 14(10): 49 (1901) = *Isoetes saccharata* var. *reticulata* Eaton; Steele, *Proc. Biol. Soc. Wash.* 14: 49 (1901). **Isoetes riparia var. robbinsii** (Eaton) Proctor, *Amer. Fern Journ.* 39: 119 (1949) - New England = *Isoetes canadensis* var. *robbinsii* A. A. Eaton, *Rhodora* 5: 279 (1903) = *Isoetes dodgei* var. *robbinsii* Eaton, *Rhodora* 10: 42 (1908) = *Isoetes chapmanii* var. *robbinsii* (Eaton) Broun, *Index N. Amer. Ferns* 199 (1938)
- Isoetes roncadorensis* Fuchs-Eckert, 1981, nom. nud. Locus class.: Brazil: Mato Grosso: Serra do Roncador, ca. 450 m (=
- Isoetes roraimensis* Fuchs-Eckert, 1981, nom. nud. Locus class: Venezuela: Bolivar: Mount Roraima, 2700-2740 m. (very similar *I. killipii* Morton, 1945 – Fuchs-Eckert, 1982: 248) prob. = *I. killipii*.
- Isoetes rosselii* Fuchs-Eckert, 1964, nom. nud.. Locus class: Brasil: Bahia: Rio Preto. Map Fuchs, 1982 (*I. vannieli*).
- Isoetes saccharata Engelm. in A. Gray** (*I. hyemalis*) = *I. riparia*
- Isoetes sahayadriensis* Mahabale, 1938, *Current Science*, vol. 7 (2): 62-63 (sahyadrii). - Karnataka and Maharashtra: Panchgani = *I. coromandelina*
- Isoetes sampathkumaranii* Rao, 1944, *Current Science*, vol. 13 (11): 286-287-India: Bangalore, Karnataka. Ill. p. 274 and map: 277 in Pant & Srivastava, 1962, The genus *Isoetes* in India. *Proc. Nat. Inst. Sci. India*, vol. 28. = *I. coromandelina*
- Isoetes saracochensis** Hickey, 1994, *Fieldiana* 34: 94 (*I. saracochensis* Fuchs, 1960, nom. nud. Locus class.: Perú: Laguna Saracocha, 4200 m. Also: Lagunillas, 4380 m, Laguna Saytococha, 4350 m.
- Isoetes savannarum L.D.Gomez** = *I. panamensis*
- Isoetes savatieri** Franchet, *Bull. Soc. Bot. Fr.* 31: 395 (1884) 1884 (aff. *I. setacea* Lam.) = *Calamaria savatieri* (Franchet) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = **Isoetes lechleri var. savatieri (Franch.) (Franch.) L.D.Gomez, Brenesia** 18: 5 (1980) = *Isoetes valdiviensis* Fuchs, 1960, *Isoetes savatieri* ssp. *valdiviensis* H.P. Fuchs-Eckert (1992) nom. nud., *I. meyeri* Fuchs-Eckert, 1982 (nom. nud.); *I. chilensis* Fuchs-Eckert, 1981 (nom. nud.) - Andes S Argentina (Chubut, Neuquen, lake Nahuel Huapi etc.), Rio Negro, Santa Cruz, and Chile 770-1460 m (Arauco 37° S to Patagonia, Puerto Bono, Tierra del Fuego). Map FUCHS-ECKERT, 1982.

Isoetes savatieri ssp. *valdiviensis* H.P. Fuchs-Eckert, 1992: 140 (nom. nud.) = *I. savatieri*

Isoetes schinzii Fuchs, 1960, nom. nud. – British Guyana: Essequibo; Guyane Française (= prob. *I. triangula*)

Isoetes schweinfurthii A. Braun, *Journal of Botany, British and Foreign* 18: 108 (1880) [= *Calamaria schweinfurthii* (A. Braun) Kuntze, *Revisio Generum Plantarum* 2: 828 (1891)-1893 = *Isoetes alstonii* C. Reed & Verdc., *Kirkia* 5: 19 (1965) = *Isoetes kersii* Wanntorp, *Svensk Bot. Tidskr.* 64: 146, f3, 4, t. 1, 3 (1970) = *Isoetes rhodesiana* Alston (1956)] - Transvaal, Namibia, Botswana, Zimbabwe, Tanzania, Mozambique, Zambia, Sudan, Chad, Central African Republic, Ivory Coast, Senegal, Madagascar: Majunga.

Isoetes sehnemii H.P.Fuchs, *Fl. Illustr. Catar.* 1 (Isoetaceas): 38 (1986) - Brazil (Santa Catarina, Rio Grande do Sul: Vacaria, 400-450 m)

Isoetes semilocularis J. E. Smith, Rees, *Cyclopaedia* 19: 150 (1819) - Distribution unknown = *Isoetes coromandelina* sensu Roxb. ex Griff., *Calc. Journ. Nat. Hist* 4: 470 (1844)

Isoetes setacea auct., non Lam. = *I. delilei*

Isoetes setacea Bertol. = *I. velata*

Isoetes setacea Bory = *I. velata*

Isoetes setacea Bosc ex Delile = *I. delilei*

Isoetes setacea fa. *submersa* Glück = *I. velata*

Isoetes setacea fa. *terrestris* Glück = *I. velata*

Isoetes setacea Lam., *Encyclopédie Méthodique, Botanique* 3: 314, 1789 [*Calamaria setacea* (Lam.) Kuntze, *Revisio Generum Plantarum* 2: 828 (1891), *I. echinospora* Durieu, 1861, *Isoetes echinospora* mult. auct., *I. muricata* Dur., *Isoetes echinospora* ssp. *muricata* (Durieu) A. Löve & D. Löve, *Isoetes echinospora* var. *muricata* (Durieu) Engelm. in A.Gray. *I. hesperina*, see also synonymy sub *I. echinospora* - - Alaska, Canada (Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Labrador, Nunavut, N.W.Territories, Nova Scotia, Ontario, Prince Edward Isl., Quebec, Saskatchewan, Yukon), NW USA, NE-USA (California, Colorado, Connecticut, Idaho, Maine, Massachusetts, Michigan, Minnesota, Rhode Island, Utah, Vermont, Washington, Wisconsin), Barbados. Map HULTÉN & FRIES, 1: 5, Taylor et al., p. 68. Ill. PRELLI: 83. – **Isoetes setacea** Lam. ssp. **setacea** - W Palearctic S to the Pyrenees, N Italy, Greece. Map HULTÉN & FRIES 1: 5; *Fl. N Amer.*: 68; MUENSCHER: 343; ill. Fassett: 46; AWP 1: 26; MUENSCHER: 341; CROW & HELLQUIST 1: 26. **I. s.** ssp. **asiatica** [*I. asiatica* (Makino) Makino, *Isoetes echinospora* var. *asiatica* Makino. *Isoetes echinospora* subsp. *asiatica* (Makino) A.Löve 85.] - Japan and Korea to Kamtchatka. Map HULTÉN & FRIES 1: 5; map and ill. KADONO 8, 10. **Isoetes setacea** ssp. **braunii** [*I. braunii* Durieu, *I. echinospora* var. *braunii* (Durieu) Engelm., *Isoetes echinospora* var. *braunii* (Durieu) Engelm. in A.Gray. *Isoetes braunii* forma *astoma* (Iversen) M.Braun. *Isoetes tenella* var. *braunii* (Durieu) Rothm. *Isoetes tenella* forma *astoma* (Iversen) Rothm. *Isoetes tenella* forma *iversenii* Rothm. *Isoetes braunii* forma *oligostoma* (Iversen) M.Broun. *Isoetes tenella* forma *polystoma* Rothm. *Isoetes tenella* forma *oligostoma* Rothm. *Isoetes tenella* var. *oligostoma* (Iversen) Rothm. *Isoetes braunii* forma *polystoma* (Iversen) M.Broun. *Isoetes muricata* var. *braunii* (Durieu) C.F.Reed. *Isoetes braunii* forma *robusta* (Engelm.) Pfeiffer. *Isoetes tenella* forma *robusta* (Engelm.) Rothm. *Isoetes echinospora* var. *brittonii* Cockerell. *Isoetes echinospora* var. *savilei* B.Boivin. *Isoetes echinospora* [infrasp.unranked] *brittonii* Cockerell.

Isoetes echinospora forma *astoma* Iversen. *Isoetes echinospora* forma *boottii* (Engelm.) Clute. *Isoetes echinospora* var. *boottii* Engelm. *Isoetes echinospora* subf. *angustivelata* Iversen. *Isoetes echinospora* subf. *laticornata* Iversen. *Isoetes tenella* subf. *laticornata* (Iversen) Rothm. *Isoetes tenella* forma *laticornata* (Iversen) Rothm. *Isoetes echinospora* var. *robusta* Engelm. *Isoetes echinospora* forma *robusta* (Engelm.) Clute. *Isoetes muricata* forma *robusta* (Engelm.) C.F.Reed. *Isoetes muricata* var. *hesperia* C.F.Reed. *Isoetes echinospora* var. *truncata* A.A.Eaton in Gilbert]

Isoetes setacea liensis = *I. delilei*

Isoetes setacea Moris & De Notaris = *I. histrix*

Isoetes setacea var. *delilei* = *I. velata*

Isoetes setacea var. *perreymondi* = *I. velata*

Isoetes sicala Todaro, 1866 (Sicilia) = *Isoetes histrix*

Isoetes sinensis Palmer, *Amer. Fern J.* 17: 112 (1927) (= *I. japonica* ssp. *sinensis*) - Anhui, Jiangsu, Zhejiang, Japan

Isoetes sinensis Palmer; *Amer. Fern J.* 17: 112 (1927) = *I. japonica* ssp. *sinensis*

Isoetes sinensis var. *coreana* (Y. H. Chung & H. K. Choi) M. Takamiya & al. = *I. japonica* ssp. *sinensis*

Isoetes smithii H.P.Fuchs, *Fl. Illustr. Catar.* 1 (Isoetaceas): 17 (1986) (*Calamaria martii* (A. Braun) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891); *Isoetes martii* A. Br., ex Kuhn, in Martius, *Fl. Bras.* 1 (2): 646, t. 78 (1884); *Isoetes ramboi* Herter, *Rev. Sudamer. Bot.* 8 (1-2): 19-25 (1949) - Brazil (Rio Grande do Sul, Santa Catarina) *Isoetes ramboi* f. *latifolia* Herter, *Isoetes weberi* Herter ex Weber, *Hedwigia* 63: 255-256, fig. 44-45 (1922) – Colombia (?), Brazil: Minas Gerais Rio Grande do Sul: Santa Catarina. Map Fuchs, 1986: 20, ill.: 14. (= ? *I. gardneriana*).

Isoetes socia A.Braun, 1862, *Verh. Bot. Ver. Brandenbg.* 3-4: 332 (sectio Laeves – Fuchs, 1982) = *I. lechleri* (sectio *Isoetes* !)

Isoetes spannagelii Fuchs-Eckert, *Fl. Illustr. Catar.* 1 (Isoetaceae): 33, 1986 - Brazil: Rio Grande do Sul: SE Santa Catarina: Lages, Vacas Cordas. Map FUCHS, 1986: 36, ill.: 34.

Isoetes spinulospora Jermy, apud Anthony & Schlpe, *Contr. Bolus Herb.* 10: 151, 1982, *Contr. Bolus Herb.* 10: 151. Known only from locus class.: Equatorial Guinea, Fernando Po: Bioko Isl.: Lagoa Biao.

Isoetes stellenbossiensis A.V. Duthie, *Trans. R. Soc. S. Afr.* 17: 328 (1929) - SW Cape Prov.

Isoetes stephansenii Duthie, 1929 - S Africa

Isoetes stevensii Croft, *Blumea* 26 (1): 184, 1980 - Papua New Guinea: Mt. Giluwe, Mt. Sarawaket, 3400-3600 m. Map Croft, 1980: 182, ill.: 187.

Isoetes steyermarkii Fuchs, 1960, nom. nud. Locus class.: Venezuela: Mérida, near El Aquila, 3930 m. Also: Mérida, 3400, 3700 m, Colombia: Boyacá, Cundinamarca, Cauca, Huila-Cauca, dept. del Valle, 3530-4000 m.

Isoetes storkii T.C. Palmer, *American Fern Journal* 22(4): 136 (1932) [= *Isoetes montana* T. C. Palmer, *American Fern Journal* 21(4): 134 (1931) [non *Isoetes montana* U. Weber (1922) = *Isoetes tryoniana* L. D. Gómez, *Revista de Biología Tropical* 17(1): 108, f. 8 (1972)] - Costa Rica: (Cordillera de Talamanca, 3300 m), Panama.

Isoetes stuartii A.Braun 1868 = *I. muelleri*

Isoetes subinermis (Durieu) Cesca & Peruzzi = *I. histrix*

Isoetes suksdorfii Baker = *I. nuttallii*

- Isoetes taiwanensis** De Vol, *Taiwania* 17(1): 1-7, f. 1 (1972) - Taiwan: Taipei County. Map MARSDEN, 1979: 342
- Isoetes tasmanica* Durieu, 1864 = ambos *I. elatior* et *I. humilior*
- Isoetes tegetiformans** P. M. Rury, *Amer. Fern J.* 68(4): 100 (1978) - N Georgia. Ill. Fl. N Amer.: 71.
- Isoetes tegulensis* fa. *submersa* = *I. velata*
- Isoetes tegulensis* fa. *terrestris* = *I. velata*
- Isoetes tegulensis* Gennari, 1861, *Comment. Soc. crittog. ital.* 1 (2): 106 (September), nomen illeg. = *I. velata* ssp. *tegulensis*
- Isoetes tenella* Lem. = *I. echinospora* = *I. setacea* Lam.
- Isoetes tenuifolia** Jermy apud J. Hall, *Bot. J. Linn. Soc.* 64: 118 (1971) - Known only from type locality: Ghana: Accra Plains: Nungua Farm, Kenya ?
- Isoetes tenuissima* Boreau, 1850, *Bull. Soc. industr. Angers* 21: 269 (Etang de Ris-Chauvron) = *I. velata* ssp. *tenuissima*
- Isoetes ticlioensis* Fuchs-Eckert, 1981, nom. nud. Locus class.: Perú: Dept. Lima: Ticlio pass, 4840 m. Known only from vicinity of Ticlio Pass.
- Isoetes tiguliana* Gennari, 1861, *Comment. Soc. crittog. ital.* 1 (1): 42 (February) = *I. velata*
- Isoetes toximontana** L.J. Musselman & J.P. Roux, 2002, *Novon* 12: 504-507.
- Isoetes transvaalensis** Jermy & Schelpe, *Contr. Bolus Herb.* 10: 150 (1982) - Transvaal, Oranje Free State, Natal, Lesotho.
- Isoetes triangula* U.Weber, *Hedwigia* 63: 253, f. 32, 33 (31 May 1922) [*Isoetes ovata* sensu Vareschi, 1968, *Fl. Venezuela* 1 (1): 110; *Isoetes guyanae* U. Weber, nom. nud. (Fuchs-Eckert, 1982)] – Locus class.: Brazil: amazonas: Serra do Mel, Rio Branco, Surumu; SE-Venezuela; British Guyana: Essequibo; Guyane française: Tonate. Ill. TRYON, 1982: 833
- Isoetes tridentata* = *I. durieui*
- Isoetes tripus** A. Br., *Herb. Vindob. & Hook* (1863) [= *Calamaria tripus* (A. Braun) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) [= *Isoetes phaeospora* Dur., *Bull. Soc. Bot. Fr.* 11: 103 (1864)]. - SW Western Australia. Map MARSDEN, 1979: 336.
- Isoetes triquetra** A. Braun, 1862 (nearly identical to *I. andina* – Hickey) [*Calamaria triquetra*, *Isoetes lechleri* var. *triquetra* (A.Br.) L.D.Gomez] - Andes of Ecuador and Perú: Sachapata. Cf. Hickey, R.J., 1986, *Taxon* 35: 243-246. **I. triquetra** var. **dissimilis** G. Rodríguez, 1955, *Bol. Mus. Cienc. nat. Caracas* 1 (2): 59 – Venezuela: Mérida: Laguna de Mucubají, 3500 m. = prob. *I. andina*
- Isoetes triquetra* A. Braun, 1862, var. *dissimilis* G. Rodríguez, 1955, *Bol. Mus. Cienc. nat. Caracas* 1 (2): 59 – Venezuela: Mérida: Laguna de Mucubají, 3500 m.
- Isoetes truncata* Clute = *I. setacea* ssp. *maritima*
- Isoetes tryoniana** Gómez-Pignataro, 1970, *Rev. Biol. trop.* 17 (1): 108-117. Known only from type locality: Costa Rica: Cordillera de Talamanca, 3300 m.
- Isoetes tuberculata* Gena & Bhardwaja, 1983. *J. Bombay Nat. Hist. Soc.* 81: 165-168 - India: Rajasthan. Ill. loc. cit.:165 = *I. coromandelina*
- Isoetes tuckermanii** A. Braun ex Engelm., *A. Gray, Manual* ed. 5: 676 (1867) [= *Calamaria tuckermani* (A. Braun ex Engelm.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes tuckermani* f. *borealis* (Eaton) Clute, *Fern Allies*, 260 (1905) = *Isoetes tuckermani* var. *borealis* A.A.Eaton. *Fern Bull.* 6: 7 (1898); *Isoetes tuckermani* var. *harveyi* Clute] - E-Canada (New Brunswick, Newfoundland, Nova Scotia, Ontario, Quebec), NE-USA (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont). Map Fl. N

Amer.: 70. Ill. Fassett: 46; MUENSCHER: 341; AWP 1: 26; CROW & HELLQUIST 1: 26.

Isoetes tuckermanii var. *harveyi* = *I. macrospora* = ?

Isoetes tuckermannii x *I. engelmannii* (*I. x foveolata*)

Isoetes tuerckheimii Brause in Urban, *Symb. Antillianae* 7: 161 (1912) - Hispaniola (Haiti, Dominican Republic)

Isoetes ulei U. Weber, *Hedwigia* 63: 255, fig. 40-41 (1922) – Brazil: Rio de Janeiro.

Isoetes underwoodi L.F.Hend. = *I. howellii*

Isoetes unilocularis J.E. Smith (*I. indica* Pant & Srivastava non J.G. König ex J.E. Smith; *I. mirzapurensis* Pangrahi & Dixit) – India: Madhya Pradesh, Uttar Pradesh, Tamil Nadu. = *I. coromandelina*

Isoetes urussuhuyensis Fuchs-Eckert, 1981, nom. nud.. Locus class.: Brasil: Piauhuy: Rio Parnahyba (= Parnaíba) Serra do Urrussuhuy. Also: Lagoa Boqueirão, S Piauhuy.

Isoetes valdiviensis Fuchs, 1960 = *I. savatieri*

Isoetes valida (Engelm.) Clute [*Isoetes valida* var. *gravesii* (A.A.Eaton) Clute, *I. engelmannii* var. *valida* Engelm., *I. engelmannii* var. *caroliniana* A.A. Eaton] – Eastern USA. *Fl. N Amer.*: 69. Cf. *Amer. Fern J.* 86: 16-25, 1996.

Isoetes vanniellii Fuchs, 1960, nom. nud. Locus class.: Brasil: Bahia: Rio Preto (= *I. rosselii*, cf. *I. graminifolia*).

Isoetes variabilis = *I. velata*

Isoetes vaupesensis Fuchs-Eckert, 1981, nom. nud. ined. Locus class.: Colombia: Vaupés: Intica. = prob. *I. triangula*

Isoetes velata A. Braun in Bory de Saint-Vincent & Durieu de Maisonneuve, *Expl. Sci. Algérie, Atlas*: tab. fig. 1, 1848, *Exp. sci. Algérie* 1 (13): 37. - Ill. C & K 1: 52, 57; PRELLI: 83. ***Isoetes velata*** ssp. ***velata*** A. Braun, Bory & Durieu, *Expl. Sci. Algérie, Atlas*: tab. fig. 1 (1849) [*I. v. f. baetica* (Willk.) Prada, *Acta Bot. Malac.* 8: 88 (1983) = *Isoetes baetica* Willk. & Lange, *Prodr. Fl. Hispan.* 1: 14 (1861). *I. v. f. lereschii* (Rchb.f. ex Leresche & Levier) Prada, *Lazaroa* 3: 33 (1981 publ. 1982) = *Isoetes boryana* var. *lereschii* Reichb. f. *apud* Ler. & Lev., *Deux Exc. Bot. Esp.* 118 (1880) *I. baetica* ssp. *velata* fa. *baetica* (Willk.) Prada, 1983, *Acta bot. malacitana* 8: 88, et fa. *lereschii* (Reich.) M.C. Prada, 1982, *Lazaroa* 3: 33 (Spain: Sierra de Gredos), *Isoetes boryana gredensis* Gdgr., *Fl. Eur.* 27: 195 (1891), *Isoetes velata* ssp. *asturicensis* (Lainz) Rivas Martinez & Prada, *Lazaroa* 2: 327 (1980). Locus class.: Asturias: Cueto de Arbas = *Isoetes boryana* ssp. *asturicensis* Lainz, *Bol. Inst. Estud. Asturianos, Supl. Ci.* 15: 6 (1970) = *Isoetes velatum* var. *asturicense* (M. Lainz) E.Rico & X. Giraldez, *Anales Jard. Bot. Madrid* 46(2): 585 (1989 publ. 1990) = *Isoetes decipiens* Bory, *Flora* 29: 719 (1846) deg. nom. prov. = *Isoetes grammontii* Bory 1841 in Milde, *Fil. Eur. & Alt., Asiae Minores & Siberiae*, 280 (1867) = *Isoetes lacustris* Moris, *Stirp. Sard. EI.* 3: 12 (1829) = *Isoetes sicula* Tod. ex Ces. & DeNot. *apud* Genn., *Comm. Soc. Critt. It.* 1 (2): 103 (1861) = *Isoetes variabilis* Le Grand, *Mém. Soc. Hist. Cher ser.* 4, 1896: 11 (1896) [nom. illeg. = *Isoetes velata algeriensis* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes velata australis* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes velata barbara* Gdgr. *Fl. Eur.* 27: 194 (1891) = *Isoetes velata calaostiensis* Genn., *Spec. e Var. Fl. Sarda*, p. 31 (1867) = *Isoetes velata divergens* Gdgr. *Fl. Eur.* 27: 195 (1891) = *Isoetes velata f. algerica* A. Br. ex Milde, *Fil. Eur. & Atl.*, 282 (1867) = *Isoetes velata f. brevifolia* A. Br. ex Motel & Vendr., *Actes Soc. L. Bord.* 36: 384 (1883) = *Isoetes velata* var. *typica* f. *brevifolia* A. Br., *Monatsber. K. Akad. Wiss. Berlin, Sitzung* 7 Dec (1863): 605 = *Isoetes velata f. humilior* Marcucci, *Un. Itin. Crypt.*, No. 1-V (1866) = *Isoetes velata f. sicula* A. Br. ex

Milde, *Fil. Eur. & Atl.*, 282 (1867) = *Isoetes velata* f. *sicula* Genn., Motel & Vendr., *Actes Soc. Linn. Bord.* 36: 384 (1883) = *Isoetes velata gallica* Gdgr., *Fl. Eur.* 27: 194 (1891) = *Isoetes velata redux* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes velata robusta* Gdgr., *Fl. Eur.* 27: 194 (1891) = *Isoetes velata* ssp. *typica* (Fiori & Paol.) Maire & Weiller, *Encycl. Biol.* 33: 90, f. 51 (1952) = *Isoetes velata* ssp. *typica* f. *algerica* (A. Br.) Maire & Weiller, *Encycl. Biol.* 33: 90 (1952) = *Isoetes velata* ssp. *typica* f. *brevifolia* (A. Br.) Maire & Weiller, *Encycl. Biol.* 33: 90 (1952) = *Isoetes velata* var. *brevifolia* A. Br., Batt. & Trabut, *Fl. Alg. & Tunis.*, 407 (1902) = *Isoetes velata* var. *humilior* A. Br. ex Mares & Vigineix, *Pl. Vasc. des Iles Baléares*, 322 (1890) = *Isoetes velata* f. *lusitanica* A. Br. ex Milde, *Fil. Eur. & Atl.*, 282 (1867) = *Isoetes velata tenuicula* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes velata trinacria* Gdgr., *Fl. Eur.* 27: 195 (1891) = *Isoetes velata* var. *brevifolia* (A. Br.) Franchet, *Bull. Soc. Bot. Fr.* 31: 349 (1884) = *Isoetes velata* var. *brevifolia* A. Br., *Sitzungsber. Berl. Akad. Wiss. (Monatsber. Preuss. Akad. Wiss. Berlin)*, 605 (1863) = *Isoetes velata* var. *normalis* A. Br., Bory & Dur., *Expl. Sci. Alg.*, t. 37, fig. 1 (1848) = *Isoetes velata* var. *sicula* Genn., Milde, *Fil. Eur. & Atl.* 282 (1867) [*I. velata* ssp. *tegulensis* Batt. & Trabut, 1905 (*I. tegulensis* Gennari *Comment. Critt. Ital.* 1 (1d): 42, 1861, nom. illeg., *I. velata* ssp. *tegulensis* Gennari, loc. cit. 1 (2): 106, 1861, *I. v.* ssp. *tegulensis* Batt. & Trabut, *Fl. Algérie Tunisie*: 407 (1861) = *Calamaria tegulensis* (Genn.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes dubia* var. *maculosa* Genn., *Comment. Critt. Ital.* 1(2): 105 (1861) = *Isoetes velata* ssp. *tegulensis* (Genn.) Trabut, *Fl. Syn.* 407 (1902) = *Isoetes velata* var. *tegulensis* f. *emorsa* Fiori & Paol., *Fl. Anal. Ital.* 4: 10 (1907) = *Isoetes velata* var. *tegulensis* f. *maculosa* Fiori, Fiori et Paol., *Fl. Anal. Ital.* 4: 10 (1907) = *Isoetes velata* var. *tegulensis* Fiori, Fiori & Paol., *Fl. Anal. Ital.* 1: 25 (1896). = *Isoetes velata* var. *tegulensis* (Genn.) Fiori & Paoletti, *Fl. Anal. Ital.* 1: 25 (1896) = *Isoetes velata* var. *tegulensis b. maculosa* Genn., *Ann. Agric. Sci.* 175 (1865) = *Isoetes velata* var. *tegulensis c. emorsa* Genn., *Giorn. Bot. Ital.* 2: 96 (1870), *Isoetes tiguliana* Genn., *Comment. Soc. Crittog. Ital.* 1: 4 (1861) (febr.) = *Isoetes tegulensis* Genn., *Comment. Soc. Crittog. Ital.* 1: 106 (1861) (sept.) [nom. illeg. = *Isoetes teguliana* Genn., *Comment. Critt. Ital.* 1 (1) : 42 (1861) = *Isoetes velata* var. *sicula* Tod., *Syn. Pl. Acot.*, 250 (1866) = *Isoetes velata* var. *typica b. sicula* Ces. & DeNot. = *Isoetes velata* var. *typica f. sicula* Ces. & DeNot. apud Genn., *Comment. Soc. Critt. Ital.* 1 (2): 103. Sept (1861) = *Isoetes velata* var. *typica* Fiori & Paoletti, *Fl. Anal. Ital.* 1: 25 (1896), = *Isoetes dubia* var. *emorsa* Genn., *Nuovo Giorn. Bot. Ital.* 2: 96 (1870) = *I. dubia* var. *vacuosa* = *Isoetes adspersa* var. *perreymondii* A. Br., Schoenefeld, *Bull. Soc. Bot. Fr.* 12: 261 (1865) = *Isoetes aspersum* Aschers. & Graebn., *Syn. Mitteleur. Fl.* 1: 169 *Hauptreg.* 23 (1897) = *Isoetes capillacea* Bory, *Compt. Rend. Inst. France* 23: 620 (1846) = *Isoetes lineolata* Dur. ex Motel. & Vendr., *Actes Soc. Linn. Bord.* 36: 381 (1883) = *Isoetes perreymondi* (Bory) Duval-Jouve, *Bull. Soc. Bot. Fr.* 16: 213 (1869) = *Isoetes setacea* Bory, *Compt. Rend. Inst. France* 18: 1165 (1844) = *Isoetes setacea* var. *perreymondii* Bory, *Compt. Rend. Acad. Paris* 18: 1165 (1844) = *Isoetes velata perreymondi* (A. Br.), Franchet, *Bull. Soc. Bot. Fr.* 31: 349 (1884) = *Isoetes velata* var. *perreymondi* (Bory) Franchet *I. v.* ssp. *dubia* (Genn.) Batt. & Trabut, *Fl. Syn.* 407 (1902) = *Isoetes dubia* Genn., *Comment. Soc. Crittog. Ital.* 1: 104 (1861) [basion. = *Calamaria dubia* (Genn.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891). - Portugal, Spain, Baleares, France, Corsica, Sardinia, Sicily, Italy, Libya, Tunisia, Algeria, Morocco. ***Isoetes velata*** ssp. ***tenuissima*** O. Bolós & Vigo, *Butll. Inst. Catalana Hist. Nat.* 38: 64 (1974) =

Calamaria tenuissima (Boreau) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes tenuissima* Boreau, *Bull. Soc. Industr. Angers* 21: 269 (1850) [basion. = *Isoetes tenuissima* var. *capillifolia* LeGrand, *Bull. Soc. Bot. Fr.* 42: 50 (1895) = *Isoetes tenuissima* var. *latifolia* LeGrand, *Bull. Soc. Bot. Fr.* 42: 50 (1895) = *Isoetes tenuissima* var. *longifolia* LeGrand, *Bull. Soc. Bot. Fr.* 42: 50 (1895) = *Isoetes tenuissima* var. *tenuissima* LeGrand, *Bull. Soc. Bot. Fr.* 42: 50 (1895) = *Isoetes viollaei* F. Hy, *Bull. Herb. Boiss. Ill. App.* 1: 23 (1894) = *Isoetes chaboissaei* F. Hy, *J. Bot.* (Morot) 8: 97 (1894) = *Isoetes chaboissaei* Nyman, *Consp. Fl. Eur.*, Suppl. 1: 871 (1883)-84 = *Isoetes tenuissima* Mart., *Cat.* 341 = *Isoetes tenuissima* var. *chaboissaei* LeGrand, *Bull. Soc. Bot. Fr.* 42: 50 (1895) - France: Haute-Vienne: étang de Ris-Chauvron (loc. class.), Brenne, ill. KASSELMANN: 73, 318. **I. velata** ssp. **longissima** (Bory) Greuter & Burdet, *Willdenowia* 14(1): 37 (1984) [*Calamaria longissima* (Bory & Dur.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes longissima* Bory, *Compt. Rend. Hebd. Séances Acad. Sci.* 18: 1165 (1844) [basion. = *Isoetes velata* f. *longissima* (Bory & Dur.) N. Pfeiff., *Annals of the Missouri Botanical Garden* 9(2): 120 (1922). = *Isoetes velata* f. *longissima* A. Br. ex Milde, *Fil. Eur. & Atl.* 282 (1867) = *Isoetes velata* ssp. *typica* f. *longissima* (A. Br.) Maire, *Encycl. Biol.* 33: 90 (1952) = *Isoetes velata* var. *longissima* A. Br., Bory & Dur., *Explor. Sci. Alg.*, t. 37, fig. 2 (1848) = *Isoetes velata* var. *longissima* A. Br., Batt. & Trabut, *Fl. Alg. et Tunis.*, 407 (1902)] - Algeria: El Kala, Spain: Galicia. **Isoetes velata** ssp. **adpersa** (A. Braun) Batt. & Trabut, *Fl. Algérie Tunisie*: 407 (1905) = *Calamaria adpersa* (A. Br. in Bory & Dur.) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes adpersa* A. Braun, Bory, *Expl. Sci. Algérie, Atlas*: tab. 37, rig. 3 (1849). **I. v.** ssp. **perralderiana** (Milde) Batt. & Trabut, *Fl. Algérie Tunisie*: 407 (1905) - Algeria: Aïn Sumta, Akfadou, 1250 m [= *Calamaria perralderiana* (Dur. & Le Tourn., Milde) Kuntze, *Rev. Gen. Pl.* 2: 828 (1891) = *Isoetes perralderiana* Dur. & Le Tourn., Kralik, *Pl. Alg. Exsicc.* 157 (1862) = *Isoetes perralderiana* Milde, *Fil. Eur.*: 282 (1867) [basion. = *Isoetes velata* ssp. *perralderiana* (Dur. & LeT.) Trabut, *Fl. Syn.* 407 (1902) = *Isoetes velata* var. *perralderiana* (Dur. & Le Tourn.) Pfeiffer, *Ann. Mo. Bot. Gard.* 9: 121 (1922). **I. v.** ssp. **intermedia** (Trabut) Maire & Weiller, Maire, *Fl. Afrique. N.* 1: 89 (1952) = *Isoetes velata* f. *intermedia* A. Br., Motel. & Vendr., *Actes Soc. L. Bordeaux* 36: 384 (1883) = *Isoetes velata* ssp. *intermedia* f. *immaculata* Maire, *Encycl. Biol.* 33: 90 (1952) = *Isoetes velata* tax. infrasp. *intermedia* Trabut, Batt. & Trabut, *Fl. Algérie Tunisie*: 407 (1905) = *Isoetes velata* var. *intermedia* A. Br., Bory & Dur., *Explor. Sci. Alg.* (1848).

Isoetes velata ssp. *velata* fa. *baetica* (Willk.) Prada, 1983, *Acta bot. malacitana* 8: 88 = *I. velata* ssp. *velata*

Isoetes velata ssp. *velata* fa. *lereschii* (Reich.) M.C. Prada, 1982, *Lazaroa* 3: 33 (Spain: Sierra de Gredos) = *I. velata* ssp. *velata*

Isoetes velata var. *brevifolia* A. Braun, 1863 (Sardegna) = *I. velata*

Isoetes vermiculata Hickey, *Ann. Missouri Bot. Gard.* 76(4): 1160-1161 (1989) - Venezuela: Depto. Atabapo: Tepui 2520-2560 m.

Isoetes viollaei F. Hy, 1894, *J. Bot.* 8: 97 (Etang de Ris-Chauvron) = *I. velata* ssp. *tenuissima*

Isoetes virginica Pfeiffer = *I. melanopoda*

Isoetes weberi Herter ex Weber, *Hedwigia* 63: 255-256, fig. 44-45 (1922) - Uruguay, S Brazil: Rio Grande do Sul; ?Argentina = *I. smithii* =? *I. gardneriana*

Isoetes welwitschii A. Braun ex Kuhn, *Filices Africanae* 196 (1868) [= *Isoetes natalensis* Baker, *Handb. Fern Allies* 132 (1887) = *Calamaria natalensis* (Baker)

Kuntze, Rev. Gen. Pl. 2: 828 (1891) = *Calamaria welwitschii* (A. Braun ex Kuhn) Kunze, *Revisio Generum Plantarum* 2: 828 (1883)] - Transvaal, Natal, Kenya, Angola, Namibia, Ethiopia, Eritrea, Ubangui, Ghana, Nigeria, Sudan, Madagascar.

Isoetes wormaldii R. Sim, *Trans. S. Afr. Phil. Soc.* 16: 299, t. 5 (1906) - E Cape Prov.

Isoetes yungiensis Huang T.C. & W. Carl Taylor, 2002, *Novon* 12 (4): 587-591 - China: Yunnan: Guishou Plateau: Shashi Valley, Heilongtan, Tianshengqiao, Shuang Shao.

Hybrids

Isoetes × altonharvillii Musselman & R.D. Bray, *Castanea* 60(3): 246 (1995) - Virginia
Remarks: *Isoetes caroliniana* × *engelmannii*

Isoetes × brittonii D.F.Brunton & W.C.Taylor *American Fern Journal* 80: 82-89 (1990) - Pennsylvania, Connecticut, New York = *Isoetes engelmannii* × *Isoetes riparia*

Isoetes × bruntonii Knepper & Musselman, *Amer. Fern J.* 86(1): 9 (1996) - Virginia = *Isoetes engelmannii* × *hyemalis*

Isoetes × *carltaylorii* Musselman L.J., Bray R.D., Knepper D.A., 1997, *Canadian J. Bot.* 75 (2): 301-309. = *Isoetes acadiensis* × *Isoetes engelmannii*

Isoetes × *dodgei* A.A. Eaton - North America = *Isoetes echinospora* × *Isoetes riparia*

Isoetes × *eatonii* Dodge, *Botanical Gazette* 23: 16, t. 4-5 (1897), pro sp. - New Hampshire, Massachusetts, New Jersey, Connecticut = *Isoetes echinospora* × *Isoetes engelmannii* = *Isoetes eatoni* Dodge, *Ferns and Fern Allies N. Engl.*, 39 (1896) = *Isoetes eatoni* f. *gravesii* (Eaton) Reed, *Amer. Fern Journ.* 35: 82 (1945) = *Isoetes eatoni* var. *gravesii* (Eaton) Clute, *Fern Bull.* 16: 55 (1908) = *Isoetes* × *gravesii* Eaton, *Fernwort Papers* 2: 14 (1900) = *Isoetes valida* var. *gravesii* (Eaton) Clute, *Fern Allies*, 243 (1905) Ill. Fassett: 46, map MUENSCHER: 342.

Isoetes × echtuckeri D.F.Brunton & D.M.Britton hybr. nov., a new triploid quillwort from northeastern North America. *Canad. J. Bot.* 77 (11): 1662-1668 (1999) - illus.

Isoetes × fairbrothersii J.D.Montgom. & W.C.Taylor *Amer. Fern J.* 84(4): 120 (1994) - New Jersey Remarks: *Isoetes engelmannii* × *lacustris*

Isoetes × *foveolata* A.A. Eaton ex Dodge, *Ferns & Fern Allies of New England* 38 (1896) - North America Remarks: *Isoetes engelmannii* × *Isoetes tuckermanii*

Isoetes × *harveyi* A.A. Eaton - North America = *Isoetes lacustris* × *Isoetes tuckermanii*

Isoetes × hickeyi W.C.Taylor & Luebke, *Amer. Fern J.* 78(1): 6 (1988) - Wisconsin = *Isoetes echinospora* × *Isoetes lacustris*

Isoetes × jeffreyi D.M.Britton & D.F.Brunton, *Isoetes* × *jeffreyi* D.M. Britton & Brunton, *Canadian Journal of Botany* 70: 447-452 (1992) - Quebec = *Isoetes lacustris* × *Isoetes riparia*, *Isoetes macrospora* × *riparia*

Isoetes × marensis D.M.Britton & D.F.Brunton, *Isoetes* × *marensis* D.M.Britton & D.F.Brunton, *Canad. J. Bot.* 73(9): 1352 (1995) - British Colombia. = *Isoetes howellii* × *maritima*

Isoetes × *michinokuana* M. Takamiya & al. - Distribution unknown

Isoetes × pseudotruncata D.M.Britton & D.F.Brunton, *Isoetes* × *pseudotruncata* D.M.Britton & D.F.Brunton, *Canad. J. Bot.* 74(1): 58 (1996) - British Colombia = *Isoetes echinospora* × *maritima*

Isoetes × *truncata* (A.A. Eaton) Clute, *The Fern Allies* 260 (1905) SE-Alaska. [*Isoetes* *maritima* × *Isoetes occidentalis* = *Isoetes echinospora* var. *truncata* A.A. Eaton, *Working List of North American Pteridophytes* 27 (1901) = *Isoetes muricata* ssp. *truncata* (A.A.Eaton) H.P.Fuchs, *Proc. Kon. Ned. Akad. Wetensch. C* 85(2): 239 (1982)].

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