

(in *Phytologia* 12: 439. 1965). This latter author commented that: “I know nothing whatever of this species except what is given in the literature” and, additionally, reported that the type was at LE, but evidently had not examined it. The only other use of the name that we have traced was by Hayek (in *Denkschr. Kaiserl. Akad. Wiss., Wien, Math.-Naturwiss. Kl.* 79: 296. 1908), who misidentified as *L. riedeliana* a specimen from the state of São Paulo where the species does not occur.

During the taxonomic revision of *Lippia* L. for the forthcoming Flora of Brazil, online 2020 (<http://floradobrasil.jbrj.gov.br>), we contacted the Curator of LE to locate the type specimen of *L. riedeliana*. He sent us photographs of the five specimens he found at LE. All specimens contain labels with information that matches the contents presented by Schauer in *Flora Brasiliensis*: “*in locis glareosis arenosis prov. Tejuco, Decembri*”. Additionally, these labels show: “*Riedel 1228*”, probably the collection number by Riedel. These five specimens are, by definition (see Art. 40 Note 1 of the *ICN*; Turland & al. in *Regnum Veg.* 159. 2018), the syntypes of the name *L. riedeliana*, and we are lectotypifying the name in the present paper.

After careful checking of the details of these specimens at LE, we concluded that *Lippia riedeliana* is the same as *L. rosella* Moldenke (in *Phytologia* 39: 449–450. 1978), a species based on material collected by Irwin & al. 28442a (LL), from Minas Gerais State. This species is endemic to the region of the Diamantina Plateau in the state of Minas Gerais, Brazil, and can be recognized in having strigose branches, opposite or ternate leaves, scabrid adaxially, glandular-strigose abaxially, green bracts, vinaceous at the apex, and pink corollas. It grows in the Brazilian savanna, called locally “Campos Rupestres”, at 1200–1400 m elev.

Since its publication in 1978, this later synonym, *Lippia rosella* Moldenke, has been consistently applied to the taxon rather than *L. riedeliana*. Additionally, this species has economic importance (medicinal properties such as: anti-inflammatory, analgesic, and anti-fungal) and has been the target of several papers dealing with cytology, genomics, physiology, chemistry, and taxonomy, e.g.: Viccini & al. (in *Pl. Syst. Evol.* 246: 1–8. 2004, 256: 171–178. 2005); Pimenta & al. (in *Brazil. J. Bot.* 30: 211–220. 2007); Campos & al. (in *Pl. Syst. Evol.* 291: 133–140. 2011); Sousa & al. (in *Anais Acad. Brasil. Ci.* 84: 1029–1037. 2012, 85: 147–157. 2013); Chaves & al. (in *Genet. Molec. Res.* 13: 7864–7868. 2014); Singulani & al. (in *J. Med. Pl. Res.* 27: 4416–4422. 2018); and Cardoso & al. (in *Phytotaxa* 455: 47–52. 2020).

To maintain nomenclatural stability for this species name that has economic importance, we propose the rejection of the name *Lippia riedeliana*, a 173-year-old name that has long been obscure and that seems, as noted above, to have been used only three times since its publication. The adoption of the present proposal will secure the current use of *L. rosella*.

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(2791–2792) Proposals to conserve the name *Williamsonia* with a conserved type and *W. gigas* T.M. Harris against *W. gigas* (Lindl. & Hutton) Carruth. (fossil *Cycadophyta*: *Bennettitales*)

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(2791) *Williamsonia* Carruth. in *Trans. Linn. Soc. London* 26: 680, 691. 21 Mai 1870, nom. cons. prop.

Typus: *W. gigas* T.M. Harris, Yorkshire Jurass. Fl. 3: 123. Feb 1969, typ. cons. prop.

Carruthers (in *Trans. Linn. Soc. London* 26: 680, 691. 1870) published the name *Williamsonia* in an article entitled “On Fossil Cycadean Stems from the Secondary Rocks of Britain”. In this publication, however, he also discussed the leaves and flowers of those plant

remains. On p. 680, he presented brief Latin descriptions of (among others) *Williamsonia* and its three species, *W. gigas*, *W. pecten*, and *W. hastula*, all of which he ascribed to himself, although he later indicated (l.c.: 693–694) basionyms for all three. That generic description concerns stem, leaves and flowers, but for the species, only the leaves are described. English descriptions and extensive discussion of *Williamsonia* and its species started on p. 691, including references to earlier literature for every species. It is quite clear that he used the name *Williamsonia* for fossils of which the stem, leaves and flowers

were known. In his discussion on this genus (about 1½ pages: on p. 691–693), he paid much attention to the preceding article on the history of *Zamia gigas* Lindl. & Hutton by W.C. Williamson (Williamson in Trans. Linn. Soc. London 26: 663–674, t. 52–53. 1870). Carruthers (l.c.: 692) stated that he “was fortunate enough to obtain from him [Williamson] the paper which precedes this memoir, for communication to the Society”. Indeed, Williamson’s article has its title and authorship followed by “Communicated by William Carruthers”. Williamson apparently was not a member of the Linnean Society, but Carruthers considered him to be so important that he dedicated the name of the new genus to “father and son” Williamson. In addition, he considered their contribution to this group of plants to be so important that he commemorated them with the new tribe *Williamsonieae* (Carruthers, l.c.: 680).

Even although he ascribed *Williamsonia gigas* to himself (as “Carr.”) (Carruthers, l.c.: 680, 693), it is quite clear from his list of references for this species (p. 693) that he included *Zamia gigas* Lindl. & Hutton (Foss. Fl. Gr. Brit. 3: 45. 1835) and *Zamites gigas* (Lindl. & Hutton) Morris (in Ann. Mag. Nat. Hist. 7: 116. 1841). Moreover, Williamson’s plates (l.c.: t. 52–53) have as caption the name “Williamsonia Gigas. (*Zamia Gigas.*)”, and so the name must be treated as the new combination *W. gigas* (Lindl. & Hutton) Carruth.

Seward (Foss. Pl. 3: 421. 1917) designated *W. gigas* (Lindl. & Hutton) Carruth. as type of *Williamsonia* – a type designation that the first author added to *Index nominum genericorum (Plantarum)* only in 2013. In the recent proposal to conserve *Zamites* (Zijlstra & Van Konijnenburg-van Cittert in Taxon 69: 1122–1123. 2020), we concluded, however, that *Zamia gigas*, the basionym of *Zamites gigas*, would be the best conserved type for *Zamites*; a type selection that had already been made by Andrews, in both editions of his *Index of generic names of fossil plants* (Andrews in Bull. U.S. Geol. Surv. 1013: 261. 1955, 1300: 229. 1970), despite the fact that it is not one of the original species of *Zamites*. We found this choice confirmed by several important publications, among others that by Harris (Yorkshire Jurass. Fl. 3: 3. 1969).

The situation in Andrews’s *Index* (Andrews, l.c. 1955: 259, 1970: 227) is even more peculiar as he also lists *Williamsonia gigas* (Lindl. & Hutton) Carruth. as the type of *Williamsonia*, referring to Seward (l.c. 1917: 421–423).

Nathorst (in Kungl. Svenska Vetensk. Akad. Handl. 45(4): 1–38. 1909) had already decided that the name *Williamsonia* should only be used for flowers or fruits, not for leaves. However, he did not yet clearly distinguish *W. gigas* from *Zamia gigas* (Nathorst, l.c. 1909: 19), whereas later (Nathorst in Förh. Geol. Fören. Stockholm 35: 361–366. 1913) he wrote more extensively on several genera, concluding that *Williamsonia*, *Weltrichia* and *Wielandiella* “should be confined to the organs of reproduction only or to the plants as a whole” (l.c. 1913: 365). Even though he stated in the case of *Williamsonia* (l.c.: 364) that it “has not yet definitely been proved” that leaf and flower belong together, in his use of ‘*Williamsonia gigas*’ he did not definitely exclude *Zamia gigas* Lindl. & Hutton (l.c.), the basionym of *W. gigas* (Lindl. & Hutton) Carruth., since he also mentioned the possibility to use *Williamsonia* “for the plant as a whole”.

The fact that one could consider *Zamia gigas* as the type of both *Zamites* and *Williamsonia* was critically discussed by Harris (l.c. 1969: 122–127): on p. 122, he cited the type of *Williamsonia* as “*Williamsonia gigas* Carruthers (in part) female flower only”; as the lectotype of *W. gigas* he cited (l.c. 1969: 124): “Specimen figured by Williamson (1870, pl. 5, fig. 4.)”. This must be a printing error for t. 52, fig. 4 of Williamson (l.c.), the article preceding Carruthers’s

publication. For Harris, *W. gigas* was restricted to female flowers and definitely excluded the leaf material that represented the type of *W. gigas* (Lindl. & Hutton) Carruth. Harris thus published a later homonym that must be attributed solely to him (Art. 48.1 of the *ICN*; Turland & al. in *Regnum Veg.* 159. 2018). *Williamsonia gigas* T.M. Harris, a name independent of the earlier usages of the epithet, is proposed here as the conserved type of *Williamsonia*. See also Prop. 2792, below.

Some important species of *Williamsonia* are: *W. asseretoi* P.D.W. Barnard & J.C. Mill. (in *Palaeontographica*, Abt. B, Paläophytol. 155: 66. 1976), *W. bucklandii* (Unger) Saporta (‘*bucklandii*’) (Paléontol. Franç., Pl. Jurass. 4: 127. 1886) (*Podocarya bucklandii* Unger, Gen. Sp. Pl. Foss.: 327. 1850), *W. danubii* Dragastan (in *Dări Seamă* Inst. Geol. Geofiz. 65(3): 86. 1980), *W. haydenii* Seward (in *Mem. Geol. Surv. India*, Palaeontol. Indica, ser. 2, 4(4): 26. 1912), *W. hildae* Harris (l.c. 1969: 135–139), *W. himas* Harris (in *Ann. Mag. Nat. Hist.*, ser. 12, 6: 43. 1953), *W. latecostata* Semaka (in *Argum. Palaeobot.* 2: 15–17. 1968), *W. leckenbyi* Nath. (in *Öfvers. Kongl. Vetensk.-Akad. Förh.* 37(9): 39. 1880), *W. parvula* H.-J. Schweitzer & M. Kirchn. (in *Palaeontographica*, Abt. B, Paläophytol. 264: 137. 2003).

Many dozen species of *Williamsonia* are recognized, all of them from Mesozoic layers, most of them Jurassic, from many parts of the world: Europe, Asia, North and South America. Without conservation of *Williamsonia* with a new conserved type, it would have to be considered as a homotypic synonym of *Zamites*, thus based on fossil leaves only.

(2792) *Williamsonia gigas* T.M. Harris, Yorkshire Jurass. Fl. 3: 123. Feb 1969, nom. cons. prop.

Typus: England, Yorkshire, Runswick; female flower, Yorkshire Museum No. YM1018b; [illustrated in] Trans. Linn. Soc. London 26: t. 52, fig. 4. 21 Mai 1870.

(H) *Williamsonia gigas* (Lindl. & Hutton) Carruth. in Trans. Linn. Soc. London 26: 680, 691. 21 Mai 1870 (*Zamia gigas* Lindl. & Hutton, Foss. Fl. Gr. Brit. 3: 45. 1835), nom. rej. prop.

Neotypus (hic designatus): England, Yorkshire, Whitby (Hancock Museum No. NEWHM: G11.93, Great North Museum: Hancock, Newcastle upon Tyne).

When Lindley & Hutton published *Zamia gigas*, it applied to a specimen of a large leaf. Later on, also in various other localities in Yorkshire, this kind of leaf was found, now and then also associated with flowers (and/or stems) supposedly belonging to the same plant. This connection was already made by Young & Bird (Geol. Surv. Yorkshire, t. 2, fig. 2 & 6. 1822) from Saltwick ironstone: fig. 2 of a leaf and fig. 6 of what they mentioned as “Apparently the head of the plant No. 2.” They did not yet publish a name for this species.

A thorough investigation of specimens from the Yorkshire Coast was carried out by Williamson (in Trans. Linn. Soc. London 26: 663–674, t. 52–53. 1870) and Carruthers (in Trans. Linn. Soc. London 26: 675–691. 1870), see Prop. 2791, above. They concluded that leaves and female or male flowers (and/or stem fragments) clearly belonged together, and they adopted the name *Williamsonia gigas* (Lindl. & Hutton) Carruth. for the species.

Harris (Yorkshire Jurass. Fl. 3: 122. 1969) was the first who used the term “type”, in his separation of fossil leaves from fossil flowers, citing for *Williamsonia* “Type Species: *Williamsonia gigas* Carruthers in part (female flower only).” He also wrote “It was Nathorst (1909) who, while accepting the whole plant with *Zamites* leaves, used the name *Williamsonia* in its modern sense for flowers alone, and I here restrict it still further to the female flower for reasons



Fig. 1. Specimen NEWHM: G11.93, neotype of *Zamia gigas*, from Whitby, strongly resembling the specimen illustrated by Lindley & Hutton (Foss. Fl. Gr. Brit. 3: t. 165. 1835). Ruler 25 cm. (Photograph courtesy of the Great North Museum: Hancock and the Natural History Society of Northumbria.)

given below.” As noted in Prop. 2791 (above) Harris (l.c. 1969: 124) had already designated a lectotype for it, the specimen figured by Williamson on t. 52, fig. 4; this is housed in the Yorkshire Museum (see type citation above).

Lindley & Hutton (Foss. Fl. Gr. Brit. 3: t. 165, p. [45]–46. 1835) described a large fossil leaf as *Zamia gigas* since its leaflets strongly resemble those of the “modern *Zamias*”. They did not mention an exact locality, only that it came from “the Oolitic rocks of Scarborough” – an indication that in those times was regularly used for the entire Yorkshire coast. In the Great North Museum: Hancock in Newcastle (formerly the Hancock Museum), there is in the Lindley & Hutton collection a specimen that strongly resembles that illustration, even though it is not fully identical. In those times, when photography was still being developed, a drawing was regularly composed from a few specimens that would explain the slight discrepancies. Consequently, we designate above the specimen G11.93 from Whitby, housed in that museum, as the neotype of *Zamia gigas* (Fig. 1).

If this proposal is accepted, *Williamsonia gigas* T.M. Harris will not only become a legitimate name, but the various confusing

literature authorships for ‘*W. gigas*’ can be forgotten; e.g., Dijkstra (in Foss. Cat., Pars Pl. 64: 3593. 1966) presented it as *W. gigas* “(Williamson) Carruth.”, whereas Van Amerom (in Foss. Cat., Pars Pl. 93: 890. 1988) presented it as *W. gigas* “(Lindl. & Hutton) Carruth.”; other authors, e.g., Popa (in Palaeobiol. Palaeoenv. 94: 330. 2014), still have it as *W. gigas* “Carruth. 1870”.

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