

HOMONYMY: LEGITIMACY VS. ILLEGITIMACY

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Abstract. Homonyms, if based on different types and recognized at the same rank, may be created either unintentionally or deliberately. Identical infrageneric names of the same genus or identical infraspecific names of the same species may be homonyms, even if they differ in rank. Although later homonymy usually causes illegitimacy, the provisions on homonymy do not apply to infrafamilial names, such as tribes. Simultaneously published homonyms may be legitimate.

Keywords: *Epidendrum*, homonymy, infrafamilial names, infrageneric names, infraspecific names, *Lemanea*, *Ludwigia*, *Mora*, *Morus*, *Sacheria*, *Scenedesmus*

According to the Glossary of the Shenzhen Code, a homonym is “A name spelled exactly like another name published for a taxon at the same rank based on a different type...names of subdivisions of the same genus or of infraspecific taxa within the same species that are based on different types and have the same final epithet are homonyms, even if they differ in rank... because the rank-denoting term is not part of the name...” (Turland et al., 2018).

In this regard, we add that homonyms may be created either unintentionally or deliberately. Although later homonymy usually causes illegitimacy, the provisions on homonymy do not apply to infrafamilial names, such as tribes and simultaneously published homonyms may be legitimate. We illustrate the concepts with a few examples.

Regarding the homonymy at the same rank, we provide two examples here. The first example, belonging to the family Onagraceae, explains how *Ludwigia* DC. (Prodr. 3: 58. 1828) became a later homonym of *Ludwigia* L. (Sp. Pl. 1: 118. 1753) by exclusion of the type of *Ludwigia* L. The second example, in Orchidaceae, explains how *Epidendrum* L. (Sp. Pl. 2: 952. 1753) and *Epidendrum* L. (Sp. Pl., ed. 2. 2: 1347. 1763) became homonyms because of the provisions of the Code on conservation of names from later usage with conserved types and rejection of identical earlier names with different types.

The case of *Ludwigia* might be considered as an example of “genuine” homonyms, whereas that of *Epidendrum* as an example of “artificial” homonyms.

LUDWIGIA L. (SP. PL. 1: 118. 1753) AND LUDWIGIA DC. (PRODR. 3: 58. 1828)

Britton and Brown (1913) were the first to typify the genus name *Ludwigia* L. (Sp. Pl. 1: 118. 1753). They cited *L. alternifolia* L., one of the original species of the genus, as the lectotype. Subsequently, Hitchcock (1929) also selected *L. alternifolia* as the type of the genus name.

Prior to the Shenzhen Code, any generic name typification done by the practitioners of the then existing American Code, such as the typifications done by Britton, was rejected as a mechanical process (see Melbourne Code Art. 10 Ex. 7, McNeill et al., 2012). In such cases, the next typification done by a non-practitioner of the American Code was accepted. Since Hitchcock's typification (1929: 125) was the next one, he was considered as the designator of the type for *Ludwigia* L. (see The Linnaean Plant Name Typification Project at <https://www.nhm.ac.uk/our-science/data/linnaean-typification/search/index.dsml>; accessed on August 30, 2022).

However, in the Shenzhen Code a provision was made to accept mechanical designations as outlined in Art. 10.5 (Turland et al., 2018): “...A type chosen using a largely mechanical method of selection is superseded by any later

choice of a different type not made using such a method, unless, in the interval, the supersedable choice has been affirmed by its adoption in a publication that did not use a mechanical method of selection.” Since Hitchcock's (1929) selection of *L. alternifolia* as the “type species” for *Ludwigia* affirms the selection done by Britton and Brown (1913), their designation is accepted (see Index Nominum Genericorum-Plantarum at <https://naturalhistory2.si.edu/botany/ing/>; accessed on August 30, 2022). The lectotype (Habitat in Virginia, Kalm, Herb. Linn. No. 154.1 [LINN image]) of *L. alternifolia* L. was designated by Reveal (1993).

De Candolle (1828) recognized “*Ludwigia* Roxb. fl. Ind. I. p. 440 [1820]” as an accepted genus and included 10 species. De Candolle (1828: 59) treated *Isnardia* L. as an accepted genus and listed *Ludwigia* L. as a synonym, and included 16 species, such as *I. alternifolia* (L.) DC. (based on *L. alternifolia*). The Linnaean *Ludwigia* originally included two species, i.e., *L. alternifolia* and *L. perennis*. De Candolle (1828) included *L. alternifolia* within *Isnardia* and seems to have doubtfully included “*L? perennis* (Linn. spec. ed. 2. p.

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173.)... Confer *Jussiaea Burmanni* [= *Jussiaea burmanni* DC.]?" in his usage of "*Ludwigia* Roxb." Because of the "retention" of *L. perennis* within "*Ludwigia* Roxb.," one may argue that De Candolle's usage of "*Ludwigia* Roxb." includes one of the original Linnaean species, and that he did not create a later homonym. However, it is emphasized here that in his treatment of *Isnardia*, De Candolle cited "*Ludwigia* Lin. gen. n. ... 153" [= Gen., Pl., ed. 6: 60, no. 153. 1762] ... non Roxb." as a synonym, and that within his treatment of "*Ludwigia* Roxb.," de Candolle mentioned that "*Ludwigia* Linnæi sit eadem ac *Isnardia*" (= *Ludwigia* of Linnaeus is the same as *Isnardia*). Based on these facts, it is evident that De Candolle's usage of "*Ludwigia* Roxb." did create a later homonym (non L., 1753). K. N. Gandhi (pers. comm.) confirmed that Werner Greuter (B), John Wiersema (US), and John McNeill (E) agree with this assessment and that the next Madrid Code might include De Candolle's usage of *Ludwigia* as an example.

Since Roxburgh (1820) cited *Ludwigia*. 'Schreb.

EPIDENDRUM L. (Sp. Pl. 2: 952. 1753) AND EPIDENDRUM L. (Sp. Pl., ed. 2: 2: 1347. 1763)

In contrast to *Ludwigia* L. (1753) and *Ludwigia* DC. (1828), the case for *Epidendrum* L. (1753) and *Epidendrum* L. (1763) is different. Linnaeus did not either deliberately or inadvertently publish *Epidendrum* (1763) as a new genus name. It was automatically created when *Epidendrum* was conserved from the Linnaean 1763 usage and typified with a type different from that of *Epidendrum* (1753), nom. rej.

So far as *Epidendrum* L. (1753) is concerned, the first lectotypification was by Britton and Wilson (1924), and this selection was affirmed by Green (1929). Following Rec. 10A.2 of the Shenzhen Code (Turland et al., 2018), it is, therefore, to be cited as "*Epidendrum* L., Sp. Pl.: 952. 1753, nom. rej. Type: *E. nodosum* L." (designated by Britton and Wilson, 1924; affirmed by Green, 1929). The lectotype of *E. nodosum* L. is [icon] "Orchidi affinis *Epidendrum* Corassavicum folio crasso Sulcato" in Hermann, Parad. Bat. t. 187 (bis). 1698: designated by Jones (1967). A lectotype was superfluously designated by Cribb (1999). The current name of *E. nodosum* is *Brassavola nodosa* (L.) Lindl.

Epidendrum nocturnum Jacq. (Enum. Syst. Pl.: 29. 1760) is the conserved type of *Epidendrum* L. (1763). It was listed as "standard species" [equivalent to type—see Art. 7 voted *Ex. 16 of the Shenzhen Code (Turland et al., 2018)] when the name was first proposed for conservation (Sprague, 1929) and was recognized as being a conserved type by Rickett and Stafleu, 1959. The lectotype of *E. nocturnum* Jacq. is Jacquini, Select. Strip. Amer. Hist. 225, t. 139. 1763, designated by Garay and Sweet (1974).

It is emphasized here that Linnaeus did not alter or emend his circumscription of *Epidendrum* between 1753 and 1763. His descriptions of *Epidendrum* given in "Genera Plantarum, ed. 5: 408. 1754 and ed. 6: 464. 1764" are almost the same; in 1763, he merely added 10 additional species, including *E. nocturnum*, that became the conserved type (see Sprague, 1929: 69 and Green, 1929: 186 for discussion).

In summary, prior to the acceptance of Sprague's (1929) proposal for conservation of *Epidendrum* L. (1763)

Gen. No. 204,' he indirectly referred to Linnaeus, and it is ascertained here that he did not publish *Ludwigia* as a new genus name. However, since De Candolle treated the Roxburghian usage of *Ludwigia* as different from that of Linnaeus' *Ludwigia*, it is construed here that De Candolle (page 58) inadvertently created *Ludwigia* DC. as a later homonym (non L., 1753), that De Candolle alone is the author, and that *Ludwigia* DC. remains untypified. Although *Ludwigia* L. is typified by *L. alternifolia* and *Ludwigia* has 10 "syntypes," in the present taxonomy, they are the same and thus *Ludwigia* L. and *Ludwigia* DC. are now to be considered as homonyms applying to the same taxon. This is evident from the treatment of Wagner et al. (2007: 32, 34, 36), who assigned the original species of *Ludwigia* DC. to *Ludwigia* L. It is emphasized here that except for the International Plant Name Index (see <https://www.ipni.org/n/60440057-2>; accessed on September 19, 2022), no other published work on *Ludwigia* classification has hitherto addressed the issue discussed here.

and rejection of *Epidendrum* L (1753) in 1930, only *Epidendrum* L. (1753) existed with *E. nodosum* L. as the lectotype. Since 1930, two *Epidendrum* homonyms have existed. Unlike the situation of the homonyms *Ludwigia* L. and *Ludwigia* DC., which pertain to the same taxon, the homonyms *Epidendrum* L. (1753) and *Epidendrum* L. (1763) are taxonomically different and now refer to two different genera. Additionally, unlike most homonyms, *Epidendrum* (1753) and *Epidendrum* (1763) have the same author, i.e., Linnaeus.

Regarding homonymy of identical subdivisional names at different ranks, an example is mentioned here. The names *Scenedesmus armatus* f. *brevicaudatus* L. S. Péterfi (in Stud. Cercet. Biol. (Bucharest), Ser. Biol. Veg. 15: 25. 1963) and *S. armatus* var. *brevicaudatus* (Hortob.) Pankow (in Arch. Protistenk. 132: 153. 1986) are based on different types, and, although the latter name is at a different rank, it is a later homonym and illegitimate. (see Art. 53.3; Turland et al., 2018). Homonymy at infrageneric ranks within the same genus is rare.

The homonymy of infrafamilial names is addressed here with an example; the derivation of the name tr. Moreae Britton & Rose (in Britton, N. Amer. Fl. 23: 201, 217. 1930) from the genus name *Mora* Benth. (in Trans. Linn. Soc. London 18: 210. 1839) [genitive form: morae; Fabaceae] and the name tr. Moreae Dumort. (Anal. Fam. Pl.: 17. 1829) from *Morus* L. (Sp. Pl. 2: 986. 1753), [genitive form: mori; Moraceae]. The concept of illegitimacy due to homonymy does not apply to infrafamilial names, and the later homonym tr. Moreae Britton & Rose is legitimate (see Art. 53.1 Ex. 5, Turland et al., 2018).

As in the above case, simultaneously published homonyms, which have equal priority, may be legitimate; e.g., *Mimosa cinerea* (Sp. Pl. 1: 517 [sp. no. 10]. 1753) and *M. cinerea* (Sp. Pl. 1: 520 [sp. no. 25]. 1753) are homonyms and legitimate (see Art. 53.5; Turland et al., 2018).

In contrast to the above, "When an author adopts an

existing name but definitely excludes its type, a later homonym that must be attributed solely to that author is considered to have been published” (see Art. 48.1; Turland et al., 2018). Two examples are mentioned here. *Lemanea corallina* Bory (in Ann. Mus. Natl. Hist. Nat. 12: 183, t. 21, f. 2. 1808) is the type of *Lemanea* Bory (Ann. Mus. Natl.

Hist. Nat. 12: 178. 1808). In the new genus *Sacheria* Sirodot (Ann. Sci. Nat., Bot., ser. 5, 16: 69. 1872), Sirodot included *L. corallina*, and at the same time, recognized *Lemanea* as a genus distinct from his *Sacheria*. In this case, *Lemanea*, as treated by Sirodot, is cited as *Lemanea* Sirodot (1872), non Bory (1808).

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