# (2427) Proposal to conserve the name *Stellaria* (*Caryophyllaceae*) with a conserved type

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**DOI** http://dx.doi.org/10.12705/652.21

(2427) ***Stellaria*** L., Sp. Pl.: 421. 1 Mai 1753 [*Caryophyll.* / *Caryophyll.*], nom. cons. prop.
Typus: *S. graminea* L., typ. cons. prop.

*Stellaria* L. belongs to the family *Caryophyllaceae* Juss., tribe *Alsineae* Lam. & DC. The closest related genera are *Cerastium* L. and *Holosteum* L. according to the phylogenetic data (Fior & al. in Amer. J. Bot. 93: 399–411. 2006; Harbaugh & al. in Int. J. Pl. Sci. 171: 185–198. 2010). *Stellaria* contains from 120 to 200 species (Bittrich in Kubitzki & al., Fam. Gen. Vasc. Pl. 2: 227. 1993; Chen & Rabeler in Wu & al., Fl. China 6: 11. 2001; Morton in Fl. N. Amer. 5: 96. 2005) and is found throughout temperate areas worldwide and at higher altitudes in tropical areas. There are a few weedy species, such as *S. media* (L.) Vill. and *S. graminea* L., which are found almost worldwide.

*Stellaria* was first described by Linnaeus (Sp. Pl.: 421. 1753) with several European taxa listed, including *S. nemorum* L., *S. dichotoma* L., *S. radians* L., *S. graminea* L., *S. cerastoides* L., *S. biflora* L. and *S. holostea* L. This last name was chosen by Green (in Sprague & al., Nom. Prop. Brit. Bot.: 155. 1929) as the type of the generic name. There is no recent worldwide revision of this genus; the most recent is the synopsis published by Pax & Hoffmann (in Engler & Prantl, Nat. Pflanzenfam., ed. 2, 16c: 320–323. 1934).

Recently, molecular studies have been carried out using 49 species of *Stellaria* (making 25% to 40% of its estimated total species diversity), which showed the lack of monophyly in this genus (Fior & al., l.c.; Harbaugh & al., l.c.; Greenberg & Donoghue in Taxon 60: 1637–1652. 2011). According to these studies, a small group of predominantly Central American and western North American species of *Stellaria* (e.g., *S. howardii*, *S. minutifolia*, *S. obtusa* and *S. ovata*) should be transferred to *Sclerantheae* probably as a new genus. These species, originally described in *Stellaria*, show the closest relation to *Mononeuria* and *Triplateia*, recent segregates of *Minuartia* (Dillenberger & Kadereit in Taxon 63: 64–88. 2014), *Geocarpon*, and *Wilhelmsia*, and need not further concern the application of the name *Stellaria*. The remaining majority of species of *Stellaria* form a clade within *Alsineae*, which, however, is not monophyletic when all its species are considered, but forms a grade subtending the large genus *Cerastium*, species of *Arenaria* subg. *Odontostemma*, and those of the smaller "stellarioid" genera *Holosteum*, *Lepyrodiclis*, *Moenchia*, *Myosoton*, *Plettkea*, and *Pseudostellaria*. However, most critically,

*S. holostea*, the type of *Stellaria*, comes at the base of this clade and is revealed as sister to the clade that includes not only the majority of studied *Stellaria* species (as a distinct clade) but also *Cerastium*, *Dichodon*, *Holosteum*, and *Moenchia* (Greenberg & Donoghue, l.c.; Hernández-Ledesma & al. in Willdenowia 45: 281–383. 2015).

As the majority of *Stellaria* species form a distinct clade, the polyphyly of the genus can be solved by segregating several small genera from it. Similar problems were solved in this way in closely related large non-monophyletic groups such as *Minuartia* (Dillenberger & Kadereit, l.c.) and *Arenaria* (Harbaugh & al., l.c.; Greenberg & Donoghue, l.c.; Sadeghian & al. in Bot. J. Linn. Soc. 178: 648–669. 2015). However, one of those segregates would necessarily include *S. holostea*, the type of the generic name.

The main argument for conservation of *Stellaria* with a new type is the need for some dismembering to achieve monophyletic genera in this group. However, this work is not carried out yet, except for the largely controversial treatment of Tzvelev (Fl. Europ. Orient. 11: 145–155. 2004) who accepted the segregate genera *Alsine* L., *Hylebia* (W.D.J. Koch) Fourr. and *Myosoton* Moench, but still left the majority of *Stellaria* paraphyletic. All the main taxonomic treatments of this group are traditionally conservative, although some of them concluded that the genus should be subjected to a monographic revision (Konnov in Ovchinnikov, Fl. Tadzhikskoi S.S.R. 3: 473–481. 1968; Friedrich in Hegi, Ill. Fl. Mitt.-Eur., ed. 2, 3(2): 883–900 1969; Morton, l.c.: 96–114). If one does not split up *Stellaria* in such a way as to leave its type, *S. holostea*, in a segregate genus, then the traditional genera *Holosteum*, *Cerastium*, etc. must be merged with *Stellaria*, which would undoubtedly disturb the firmly established nomenclature of the *Alsineae* and which has never been considered before. If conservation with a different type is not approved, then the familiar name *Stellaria*, much used also outside taxonomic literature, will be attached to a probably monotypic genus, and the vast majority of the present-day *Stellaria* species will be transferred to *Alsine* L., if the latter genus includes *Myosoton*, or the obsolete and never accepted *Larbrea* A. St.-Hil., if *Alsine* is split further to retain a greater number of traditionally accepted segregates. Although the number of segregate genera to be established in place of the former *Stellaria* is not yet defined, if *Stellaria* is not conserved with a new type any possible scenario to achieve sensibly defined monophyletic groups will require at least 100–120 new nomenclatural combinations. I do not see any arguments against this conservation.

Restriction of the species-rich and universally known genus *Stellaria* to the single European species, *S. holostea*, would not serve nomenclatural stability as emphasized by the *Melbourne Code* (McNeill & al. in Regnum Veg. 154. 2012). In this situation, I propose to conserve the name *Stellaria* with the conserved type, *S. graminea* L., which will allow the application of this generic name to the vast majority of species that are currently classified in this genus, and will promote nomenclatural stability in this group. Acceptance of the proposal will undoubtedly minimize the future confusion to taxonomists.