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Willdenowia
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From India to Madeira and back again: a new combination for a wide-ranging *Spergularia* (*Caryophyllaceae*)

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Abstract: A recently published phylogenetic analysis strongly supports the inclusion of *Spergula fallax* (Lowe) E. H. L. Krause in the genus *Spergularia* (Pers.) J. Presl & C. Presl (*Caryophyllaceae*), where it was originally described. This species of spurrey, which occurs across North Africa, the Middle East and N India, has also been named *Arenaria flaccida* Roxb., which is a later homonym and therefore illegitimate. *Stipularia flaccida* Madden is an overlooked replacement name for *A. flaccida* and is the earliest legitimate name for the species. The new combination *Spergularia flaccida* (Madden) I. M. Turner is proposed here. In addition, lectotypes are designated for *A. flaccida* and its taxonomic synonyms *Lepigonum eximium* Kindb., *Spergula flaccida* f. *purpurascens* Maire & Sauvage, *Spergula pentandra* var. *intermedia* Boiss. and *Spergularia fallax* Lowe.

Key words: Ascherson, *Caryophyllaceae*, lectotypification, Madden, Middle East, new combination, nomenclature, North Africa, Roxburgh, *Spergula*, *Spergularia*

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Introduction

William Roxburgh's magnum opus, his *Flora Indica*, was never published in the format the author intended. He accumulated manuscript descriptions of many plant species and had drawings made of a large proportion of these. But by his death in 1815, the flora was still only a manuscript. It was not until 1832 (Roxburgh 1832), when the second edition of the posthumous *Flora Indica* appeared, that all Roxburgh's seed plant taxa were finally published (though still without the illustrations). One of the many new species first validated in the 1832 *Flora Indica*, was a small *Caryophyllaceae* species that Roxburgh called *Arenaria flaccida*. He reported that "it is only found during the cold season as a weed in gardens about Calcutta".

In 1856, Richard Lowe, described *Spergularia fallax* from Madeira (Lowe 1856). This is some 10,000 km from where Roxburgh described *Arenaria flaccida* in Bengal. Yet, the following year, Lowe (1857: 75) noted that his species was the same as Roxburgh's. The species, ranging from Macaronesia, across North Africa, the Middle East and on to North India, has been recognized by many authors, generally in the genus *Spergula* L. However, a recently published phylogeny (Kool & Thulin 2017), based on molecular data, has demonstrated that the species is sister to the rest of *Spergularia* (Pers.) J. Presl & C. Presl, but definitely lies outside a monophyletic *Spergula*. The authors recommended that the species be treated as a member of *Spergularia*. The aim of this paper is to briefly review the nomenclature of this spurrey species of extensive distribution.

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Nomenclature

Ascherson (1889) first transferred Roxburgh's name to *Spergula*. However, Roxburgh's supposed basionym is actually a later homonym and thus illegitimate, as first noted by Milne-Redhead (1951) at the instigation of J. E. Dandy. Therefore, *Spergula fallax* (Lowe) E. H. L. Krause, based on *Spergularia fallax* Lowe, appears to be the correct name for the plant in *Spergula* and has been used by many authors (Burtt & Lewis 1952: 349; Nair 1964; Rechinger 1964: 229; Zohary 1966: 122; Ratter 1980: 28; Greuter & al. 1984: 282; Ratter 1990: 149; Townsend & al. 2016: 23), though with a notable exception still using *S. flaccida* (Raffaelli 1983). In researching Roxburgh's botanical output, I found that there is an overlooked publication of a combination based on *Arenaria flaccida*. Madden (1849) published supplementary notes on the flora of Kumaon in N India, in which he proposed *Stipularia flaccida* based on "*Arenaria flaccida* of Roxburgh". As Roxburgh's name is illegitimate, Madden effectively provided for *Arenaria flaccida* a replacement name, which is the oldest legitimate name for the taxon at specific rank. While Ascherson did not cite Madden's name in publishing *Spergula flaccida*, Art. 41.4 of the *International Code of Nomenclature for algae, fungi, and plants* (McNeill & al. 2012) applies, as Ascherson's name would otherwise be validly published as that of a new taxon supported by the diagnosis provided by Ascherson's key to species. Ascherson's intention of making a new combination based on Roxburgh's name is clear. Therefore, *Spergula flaccida* (Madden) Asch. is the correct name in *Spergula* for *Spergula fallax* (Lowe) E. H. L. Krause. But following the recommendation of Kool & Thulin (2017), the species should be considered a member of *Spergularia*, as indicated by its tricarpellate, rather than pentacarpellate, flowers. The binomial *Spergularia flaccida* has appeared in print on several occasions (Battandier & Trabut 1911: 625; Kunkel 1967: 25; Hansen 1979: 110), I suspect mostly with *Spergularia* in error for *Spergula*, but none seems to even approach being validly published as a new combination. I therefore provide the required new combination below.

Typification

Surprisingly for a very wide-ranging taxon that has been treated in various floras, there do not seem to have been any published typifications for these names and other synonyms. Forman (1997) did not list any Roxburgh herbarium specimens for *Arenaria flaccida*, and I have not located any subsequently. There is a Roxburgh drawing of the species; I therefore designate here the copy at Kew as the lectotype.

Lowe's herbarium was divided between K and BM after his death. All the material in K seems to have been collected after the original publication of *Spergularia fallax*, but BM has some earlier specimens, among which one from a locality mentioned in the protologue is designated here as the lectotype. Lowe appears to have used taxon numbers rather than specimen numbers for his collections. Most of the BM collections of *S. flaccida* are numbered 857 despite being gathered from different locations and on different dates.

The original material (at least four syntypes) for Boissier's *Spergula pentandra* var. *intermedia* is present in the Boissier Herbarium in Geneva. I here select the Griffith specimen from Afghanistan as the lectotype. It seems likely that Griffith's number here is a taxon number (Lamond 1970). There are two specimens with the same number in K. One is from Bentham's herbarium that is marked as originally coming from Lemann's herbarium, which is also the source of Boissier's specimen. I therefore consider it more likely that these two specimens are true duplicates (i.e. obtained from the division of a specimen Lemann received from Griffith) and cite the K specimen as a possible isolectotype.

One of the two syntypes cited by Kindberg is designated here as the lectotype of *Lepigonium eximium* Kindb., and a syntype in Montpelier is designated as the lectotype of *Spergula flaccida* f. *purpurascens* Maire & Sauvage.

Spergularia flaccida (Madden) I. M. Turner, **comb. nov.** ≡ *Stipularia flaccida* Madden in J. Asiat. Soc. Bengal 18: 621. 1849 ≡ *Arenaria flaccida* Roxb., Fl. Ind., ed. 1832, 2: 447. 1832, nom. illeg. (Art. 53.1) [non *A. flaccida* All., Auct. Syn.: 35. 1773, nec *A. flaccida* Clairv., Man. Herbor. Suisse: 149. 1811, nec *A. flaccida* Schleich., Cat. Pl. Helv., ed. 3: 46 (add.). 1815] ≡ *Spergula flaccida* (Madden) Asch. in Verh. Bot. Vereins Prov. Brandenburg 30: XLIII. 1889 ≡ *Spergula pentandra* subsp. *flaccida* (Madden) Jafri, Fl. Karachi: 124. 1966, – **Lectotype (designated here):** [icon] Icones Roxburghianae No. 1141 (K) – Fig. 1.

– *Spergula indica* Royle, Ill. Bot. Himal. Mts.: 78, 464. 1834, nom. inval. (Art. 38.1(a)).

= *Spergula pentandra* var. *intermedia* Boiss., Diagn. Pl. Orient., ser. 2, 1: 93. 1854. – **Lectotype (designated here):** Afghanistan, *W. Griffith 1629* (G-BOIS G00547728; possible isolectotype: K 000723332).

= *Spergularia fallax* Lowe in Hooker's J. Bot. Kew Gard. Misc. 8: 289. 1856 ≡ *Lepigonum fallax* (Lowe) Lowe, Fl. Salvag. Tent.: 9. 1869 ≡ *Spergula fallax* (Lowe) E. H. L. Krause, Deutschl. Fl. [Sturm], ed. 2, 5: 19. 1901. – **Lectotype (designated here):** Madeira, [Ilhas Desertas, Bugio,] top of S. Dez.[a], 18 Jun 1855, *R. T. Lowe 857* (BM 000072083).

= *Lepigonum eximium* Kindb., Monogr. Gen. Lepigon.: 32. 1863. – **Lectotype (designated here):** Palestine, 1855, *T. Kotschy iter Syriacum 516* (S S17-522233; isolectotype: UPS).

= *Spergula flaccida* f. *purpurascens* Maire & Sauvage in Bull. Soc. Hist. Nat. Afrique N. 32: 204. 1941. – **Lectotype (designated here):** Libya, Tripolitania, in arenosis amnis Ganima, 14 Apr 1938, *R. Maire & M. Weiller 274* (MPU 004482).

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Fig. 1. Scan of the lectotype of *Arenaria flaccida* Roxb. – Icones Roxburghianae No. 1141 (K). – Reproduced with the kind permission of the Director and the Board of Trustees, Royal Botanic Gardens, Kew.

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