

**TAXONOMIC STATUS OF *POROPHYLLUM* × *FRUTICOSUM* RYDB.  
(ASTERACEAE: TAGETEAE)**

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**ABSTRACT**

*Porophyllum* × *fruticosum* Rydb. was first proposed in 1916 as a species, typified by a specimen collected by Palmer near Saltillo, Mexico. The species was subsequently treated as a natural hybrid between the relatively localized *P. amplexicaule* and the more abundant and widespread *P. scoparium*. Reasons for its acceptance as a hybrid are presented, and because of its abundance it will be recognized as a distinct entity in forthcoming treatments.

**KEY WORDS:** Asteraceae, Tageteae, *Porophyllum*, *Porophyllum amplexicaule*, *Porophyllum scoparium*, *Porophyllum* × *fruticosum*, Coahuila, Mexico

Rydberg (1916) provided a taxonomic account of *Porophyllum* for North America. In this he recognized the novel species *P. fruticosum* and distinguished it from two of its closest relatives by the following contrasts.

1. Leaves lanceolate, amplexicaule ..... **Porophyllum amplexicaule**
1. Leaves not amplexicaule, sessile, linear, oblong or cuneate.
  2. Branches erect or ascending; leaves more than 2 cm long ..... **Porophyllum scoparium**
  2. Branches spreading, flexuose; leaves 1.0-1.5 cm long ..... **Porophyllum fruticosum**

Johnson (1969) and Turner (1996) recognized *Porophyllum fruticosum* as a hybrid between *P. scoparium* and *P. amplexicaule* but did not include it in keys — instead referring to its existence within the framework of the parental taxa. In Turner's key, the hybrids will key directly to *Porophyllum scoparium*. Because of its relative abundance (ca 30 sheets so annotated at LL-TEX), and ease of detection, I intend to key the hybrid taxon in my forthcoming, revised treatment of *Porophyllum* for Mexico. In addition to the leaf characters called to the fore in the key above, *P. amplexicaule* consistently has larger heads than *P. scoparium* or the hybrid concerned.

Johnson (1969) provided an excellent treatment of the genus *Porophyllum*. In this he recognized *P. fruticosum* as a natural hybrid between the very distinct species, *P. amplexicaule* and *P. scoparium*. Both of the latter have chromosome numbers of  $n = 12$  pairs. Johnson's account of the matter is reproduced here:

*Porophyllum fruticosum* Rydb. is apparently a hybrid between *P. scoparium* and *P. amplexicaule* and should thus be designated *Porophyllum* × *fruticosum* (*P. amplexicaule* × *P. scoparium*) to conform to the International Code of Botanical Nomenclature. Meiotic configurations from plants fitting the description of *P. × fruticosum*, collected in Coahuila, show various numbers of univalent, bivalents and multivalents (Figs. 5, 6). In addition, heads from several plants of *P. × fruticosum* grown in the greenhouse produced either no pollen or pollen of low fertility.

Other examinations of meiosis in plants referable to *Porophyllum x fruticosum* (e.g., *Rock M-250*, TEX), confirm the observations of Johnson, and the many examinations of head fertility by Strother (unpublished; data handwritten on 20 or more accessions at LL-TEX) confirm his fertility observations.

The distributions of *Porophyllum x fruticosum* and its hypothetical parents are shown in Maps 1, 2, and 3. As suggested above, hybrids between the species concerned are apparently common, but I have observed both taxa growing together near Saltillo, Coahuila (for example, *Smith et al. 786*, LL-TEX, a collection with both species), among which I could not locate a single intermediate (or hybrid), in spite of efforts in the field to find such.

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#### LITERATURE CITED

- Johnson, R.R. 1969. Monograph of the plant genus *Porophyllum*. Univ. Kansas Sci. Bull. 48: 225–267.  
 Rydberg, P.A. 1916. *Porophyllum*, in N. Amer. Fl. 34: 181–193.  
 Turner, B.L. 1996. *Porophyllum*, in Phytologia Memoirs 10: 43–50.



