

## Taxonomy of the *Phacelia infundibuliformis* complex (Hydrophyllaceae)

**Billie L. Turner**

Plant Resources Center  
The University of Texas  
Austin TX 78712

### ABSTRACT

The taxonomy of *Phacelia infundibuliformis* Torr. is reviewed, concluding that it is comprised of two infraspecific taxa: var. **infundibuliformis** from central Chihuahua, and Durango, Mexico as well as the Chianti Mountains (Presidio Co.) of Trans Pecos Texas, and var. **phanerandra** I.M. Johnst. of northeastern most Chihuahua, northwestern most Coahuila and closely adjacent Texas (Brewster and Presidio Counties). Published on-line [www.phytologia.org](http://www.phytologia.org) *Phytologia* 97(3): 175-178 (July 1, 2015). ISSN 030319430.

**KEY WORDS:** Hydrophyllaceae, *Phacelia*, *P. infundibuliformis*

---

*Phacelia infundibuliformis* Torr., was first described from material reportedly collected by Bigelow and Wright from an "Overhanging rock on a mountain near Lake Santa Maria, Chihuahua." The author further notes that "Wright's specimens have a laxer habit, as well as larger and more membranous leaves than Bigelow's, probably from having grown in a shady place;" he also noted that the "species is remarkable for its funnel-form corollas." A var. *phanerandra* I.M. Johnst., with protruding stamens (vs not so) and funnel-form corollas was subsequently proposed, typified by material from northwesternmost Coahuila, Mexico, the latter taxon also occurring in closely adjacent Chihuahua and USA (Brewster Co.).

*Phacelia infundibuliformis* is of doubtful relationship within *Phacelia*. Indeed, Gillett (1968, p. 369), in his attempt to provide natural lineages in the *Cosmanthus* group of *Phacelia*, to which the present taxon might belong, commented that "the poorly known, rare, *P. infundubuliformis* Torr., of unassigned affinity, possibly a monotypic section, occurs in Brewster County, Texas...far to the east of several localities of the *Cosmanthus* phacelias." The latter collections belong to the var. **phanerandra**, Gillett presumably unaware of its proposal by I. M. Johnston, as noted below.

**PHACELIA INFUNDIBULIFORMIS** Torr., Rep. U.S. Mex. Bound. Surv. Bot. 144. 1859.  
var. **infundibuliformis** Fig. 1

**Annual herbs** to 75 cm high, leafy throughout. **Mid-stems** moderately pubescent with glandular hairs 0.2-1.0 mm high. **Leaves** (the larger) pinnately dissected, lobed to the rachis, mostly 6-18 cm long, 4-9 cm wide, pubescent above and below. **Capitulescence**, 3-6 cm high, 3-5 cm across, branches markedly circinnate. **Pedicels** (flowering) 1-2 mm long. **Calyces** (flowering) 4-5 mm long, the 5 lobes linear-oblongate, parted to the base, pubescent with stiff, setose, hairs ca 1 mm long. **Corollas** 6-8 mm long, 'blue-lavender;" tubes glabrous, ca 6 mm long, the 5 lobes flared at the top, 4-6 mm across. **Stamens**, 5, included, separate to base, the filaments purple, glabrous; anthers yellow, ca 0.6 mm long. **Styles** not excurrent, ca 4 mm long, their branches ca 2 mm long. **Capsules** ovoid, ca 3 mm long, 2.5 mm wide, pubescent apically with both glandular (minute) and eglandular hairs. **Seeds**, 16-30 per capsule, brown, ca 4 mm long.

## SPECIMENS EXAMINED:

**MEXICO. CHIHUAHUA:** 27 mi S of Cd. Chihuahua, route 45, 9 May 1959, *Correll & I.M. Johnston* 21563 (LL-TEX); 10-15 mi SE of Nueva Casas Grandes, 9 May 1959, *Correll & I.M. Johnston* 21696 (LL-TEX); “mouth of Majalca Canyon,” 11 May 1959, *Correll & I.M. Johnston* 21754 (LL-TEX).  
**DURANGO: Mpio. Nombre de Dios,** El Saltito, 25 Apr 1985, *Herrea* 611 (TEX).

**UNITED STATES. TEXAS: Presidio Co.,** Chinati Mtns. State Natural Area. Upper Tinaja Prieta fork of Pelillos Canyon, 29 51 28 N, 104 26 48 W, 4230 ft, 25 Mar 2005, *Lott* 5456 (SRSC, TEX); “Capote Falls area,” ca 30 13 N, 104 37 W, 3100 ft, mostly rocky calcareous soil, 16 Apr 1973, *M. C. Johnston et al.* 10663 (TEX).

The two collections from Texas cited above were taken to be a novel species when first detected, my having relating them to *P. congesta*. My Academic Son, A. M. Powell (Turner 2015), called attention to their likely relationship to the poorly collected *P. infundibuliformis*, which proved to be the case.

var. **phanerandra** I.M. Johnst., J. Arnold Arb. 24: 96. 1943.

As described for var. *infundibuliformis* but the anthers protruding from corollas, as noted below. The variety was not accounted for in Turner et al. (2003).

**TYPE: MEXICO. COAHUILA:** Sierra de las Cruces near Tinaja Blanca, 12 Mar 1942, *Stewart* 2241 (GH).

Johnston also notes an additional specimen from Texas (Brewster Co., 14 mi E of Castolon, [w/o date] *Cutler* 749, GH). He also adds, “This variety occurs far to the east of the known stations for typical *G.* (sic) *infundibuliformis* and appears to be a geographic race distinguished by its protruding stamens. In other characters it agrees closely with the typical form of the species.” I agree with his assessments.

## SPECIMENS EXAMINED:

**UNITED STATES. TEXAS: Brewster Co.:** “north slope of mountain near Cottonwood Creek, along road between Terlingua and Basin, Big Bend National Park, 18 Apr 1961, *Correll & Rollins* 23630 (LL-TEX). **Presidio Co.** “rare on igneous rock outcrops in shade of cliffs and nearby large cottonwoods, Ojito Adentro Spring, ca. 0.1 mi downstream from waterfall in box canyon, Big Bend Ranch SNA.” 5 Mar 1991, *Carr* 10971 (TEX); “North-facing cliffs, about 14 miles southeast of Redford, 14 May 1959, *Correll & I.M. Johnston* 21905 (LL-TEX).

Distribution of the two taxa, based upon published reports and specimens on file at LL-TEX, is shown in **Fig. 2**

## ACKNOWLEDGEMENTS

I am grateful Jana Kos for editorial assistance and to Mike Powel for reviewing the manuscript.

## LITERATURE CITED

- Gillet, G.W. 1968. Systematic relationships in the *Cosmanthus Phacelias* (Hydrophyllaceae). *Brittonia* 20: 368-364.  
 Turner, B.L. et al. 2003. Atlas of the Vascular Plants of Texas, Vol. 1. *Sida, Bot. Misc.* 24: 391.  
 Turner, B.L. 2015. *All My Academic Children*. Texensis Publishing, Gruver, Texas, 134 pp.



Fig. 1. *Phacelia infundibuliformis* var. *infundibuliformis*

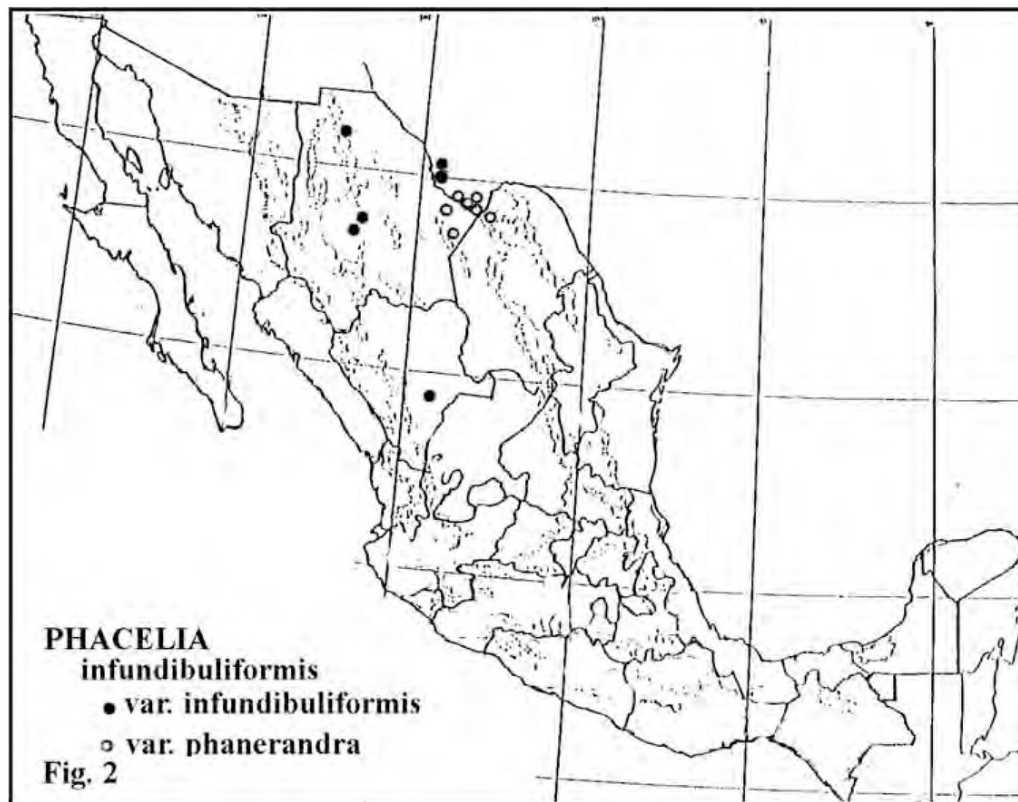


Fig. 2. *Phacelia infundibuliformis*, distribution of varieties.



Turner, B. L. 2015. "Taxonomy of the *Phacelia infundibuliformis* complex (Hydrophyllaceae)." *Phytologia* 97(3), 175–178.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/201069>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/220494>

**Holding Institution**

Phytologia

**Sponsored by**

IMLS LG-70-15-0138-15

**Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Phytologia

License: <http://creativecommons.org/licenses/by-nc-sa/4.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.