

western North America is not questioned. There is no evidence at hand of recent extension of range. At present, therefore, there seems no reason to doubt that this species is native in western North America.

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THE GENUS BURRAGEA OF LOWER CALIFORNIA, MEXICO

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The first collection of a member of the genus *Burragea*, in the family Onagraceae, made in 1844 by R. B. Hinds, surgeon on H. M. S. "Sulphur," at Magdalena Bay, Lower California, Mexico, was described by George Bentham (1844, p. 15) as *Gaura? fruticulosa*. Bentham considered the development of the seeds within the branch to be due to fungi or to an unknown disease. The question mark between the genus and species name indicates that Bentham was doubtful as to the correct generic status. Mary Curran (1888, p. 231) described a new species, *Gongylocarpus frutescens*, from a collection made by W. E. Bryant, apparently without knowledge of *Gaura fruticulosa*. The following year, T. S. Brandegee (1889, p. 158) collected *Gaura fruticulosa*, which he transferred to *Gongylocarpus* Cham. & Schl., a related genus of the Mexican mainland, and gave *Gaura fruticulosa* and *Gongylocarpus frutescens* as synonyms. In the spring of 1911, while a member of the "Albatross Expedition," J. N. Rose collected specimens of what he and J. D. Smith determined as *Gongylocarpus frutescens* and *Gongylocarpus fruticosus*. However, they considered these two species to be sufficiently distinct from the mainland species of *Gongylocarpus* to merit segregation as a new genus, *Burragea* (1913), named in honor of Commander G. H. Burrage who was in command of the "U. S. S. Albatross" on the expedition to Lower California in 1911. The two species of *Burragea* that Rose and Smith recognized were *B. fruticulosa* and *B. frutescens*. However, as Brandegee (1889) had pointed out, *B. fruticulosa* and *B. frutescens* are synonyms. The specimens that Rose and Smith

called *B. frutescens* are distinct from those of *B. fruticulosa*. Since the name *B. frutescens* belongs in the synonymy under *B. fruticulosa*, a new name must be given to the entity that Rose and Smith called *B. frutescens* (1913, p. 298). The following treatment represents the writer's concept of the limits of and entities constituting the genus *Burragea*.

BURRAGEA Donn. Smith & Rose, Contr. U. S. Nat. Herb. 16: 297. 1913.

Plants low, freely branching shrubs, 3–6 dm. tall. Leaves alternate, subsessile, entire, somewhat thickened. Flowers in dense leafy terminal spikes, solitary in the leaf-axils. Calyx-tube filiform, attached to the stem. Calyx-lobes 4, lanceolate, tapering into an acute tip, reflexed in anthesis. Petals 4, orbicular to obovate. Stamens 8, all functional; anthers versatile. Stigma capitate to shallowly bilobed. Ovary 2-celled, enclosed in woody stem, at length dehiscent. Seeds one in each cell.

Type species: *Gaura* ? *fruticulosa* Benth.

Burragea occurs in a restricted region about Magdalena Bay, Lower California, Mexico.

KEY TO THE SPECIES

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| Plants glabrous, leaves oblanceolate | 1. <i>B. glabra</i> . |
| Plants glandular-pubescent, leaves linear to narrowly oblanceolate | 2. <i>B. fruticulosa</i> . |

1. *Burragea glabra* sp. nov. Planta fruticosa glabra, 3–6 dm. alta, ramis numerosis, brevibus, foliis oblanceolatis, alternis, glabris, subsessilibus, 2–3.5 cm. longis, 5–8 mm. latis, tubo calycis 2–2.5 cm. longo, ca. 1 mm. lato, lobis calycis (sepalis) 4, lanceolatis, basi obtusis, ca. 1 cm. longis, petalis 4, orbicularibus vel obovatis, ca. 1 cm. longis, staminibus 8, ad summam calycis tubi insertis, stylo filiformi, stigmate capitato, ovario biloculari in ramum florigerum immerso.

Plants low spreading shrubs, 3–6 dm. tall, freely branched, branches often appearing short and stunted, young ones purplish, aging reddish-brown, bark shredding, glabrous; leaves numerous at ends of twigs, oblanceolate, 2–3.5 cm. long, 5–8 mm. wide, subsessile, glabrous, sometimes adhering to fruiting branch for some time; flowers 4-merous, showy, single in leaf axils; calyx-tube narrow, 2–2.5 cm. long, about 1 mm. wide, glabrous, partly closed at summit and prolonged into a collar beyond the point of attachment of petals, calyx-lobes, and stamens; calyx-lobes lanceolate, somewhat obtuse at base, about 1 cm. long, glabrous, reflexed in anthesis, rose colored, tips acute, free in the bud; petals orbicular to obovate, about 1 cm. long, slightly clawed, rose-colored, drying pink; stamens 8, all functional; filaments 5–9 mm. long; anthers versatile, about 2 mm. long, yellow; style equalling or exceeding stamens, filiform, stigma capitate, about

1 mm. broad, often shallowly bilobed; ovary enclosed in woody stem, forming a rough clavate structure, 2–8 cm. long, 4–7 mm. in diameter, glabrous, with shallow indentations along which splitting at length occurs; seeds two, one in each cell, 3–4 mm. long, angled, dark brown.

Type. Santa Maria Bay, Magdalena Island, Lower California, Mexico, March 18, 1911, *J. N. Rose 16263* (US, no. 638328; isotype, UC, no. 180094). Abbreviations of names of herbaria are according to Lanjouw (1939).

This collection (*J. N. Rose 16263*) was referred to *Burragea frutescens* by Smith and Rose. The type specimen of *Gongylocarpus frutescens* has been compared with specimens of *Burragea fruticulosa* and with a photograph of the type of *Gaura fruticulosa*, and it is identical with the latter species. *Burragea glabra* differs from *B. fruticulosa* in being completely glabrous and in having broader and more oblanceolate leaves. The leaves of *B. fruticulosa* are quite constant as to shape; the glandular-pubescence varies in length on the same plant, up to about 0.5 mm., the longer trichomes usually being found on the more terminal branchlets. Even though the material, on which the description of *B. glabra* is based, consists of only one collection, it appears to be sufficiently distinct from *B. fruticulosa* to be given specific rank.

2. *BURRAGEA FRUTICULOSA* (Benth.) Donn. Smith & Rose, Contr. U. S. Nat. Herb. 16: 298. 1913. *Gaura* ? *fruticulosa* Benth. Bot. Voy. Sulph. 15. 1844. *Gongylocarpus fruticosus* T. S. Brandegee, Proc. Calif. Acad. Sci. Ser. 2, 2: 158. 1889. *G. frutescens* Curran, Proc. Calif. Acad. Sci. Ser. 2, 1: 231. 1888. *Burragea frutescens* Donn. Smith & Rose, loc. cit. 298.

Plants low shrubs, 3–6 dm. tall, branching freely, glandular pubescent, branches often short and stunted, purple in youth, reddish-brown in age; bark shredding; leaves closely set at the ends of twigs, linear-lanceolate to somewhat oblanceolate, 2–4 cm. long, 2–6 mm. wide, subsessile, gland tipped, glandular-pubescent, reduced upwards, often adhering to fruiting branch even after seed is mature; flowers 4-merous, single in the leaf axils, showy; calyx-tube narrow, 1.5–3 cm. long, about 1 mm. in diameter, glandular-pubescent, partly closed at top by an annular disk and produced into a collar beyond the point of attachment of petals, calyx-lobes, and stamens; calyx-lobes narrowly lanceolate, about 1 cm. long, externally glandular-pubescent, attenuated into a tapering acute tip, refracted in anthesis, rose-colored; petals orbicular to suborbicular to obovate, about 1 cm. long, slightly clawed, rose-colored, drying pink; stamens 8, all functional, equal or subequal, 5–9 mm. long; anthers versatile, about 2 mm. long, yellow; style equalling or exceeding stamens, filiform, stigma capitate, about 1 mm. broad, often shallowly bilobed; ovary 2-celled, enclosed in woody stem, forming a rough, clavate structure, 2–10 cm. long, 4–6 mm. in diameter, with shallow indenta-

tions between ovaries, along which splitting occurs tardily, long persistent on the plant, glandular-pubescent; seeds 2, one in each cell, 3–4 mm. long, angled, pubescent, dark brown.

Type. Magdalena Bay, Lower California, Mexico. *R. B. Hinds*, in 1841 (K, no. 1845).

Collections are known only from Magdalena Bay and Santa Margarita and Santa Magdalena islands, and have been made only along the coastal region. The fact that specimens with mature flowers have been collected from January through November, may indicate that flowering occurs whenever there is sufficient moisture.

Specimens examined. LOWER CALIFORNIA, MEXICO. Magdalena Bay: May 29, 1925, *Mason 1885* (DS, CAS, NY, US); October 10, 1939, *Berry 51* (DS, CAS); January, 1889, *Brandegee* (DS), November, 1902 (US); 1888, *Bryant* (CAS, type of *G. frutescens* Curran). Magdalena Island: January 13, 1889, *Brandegee* (UC, US), March, 1892 (NY, UC); 1888, *Bryant* (UC); April 11, 1930, *Johansen 620* (DS); March 1917, *Orcutt 45* (US), March, 1917, 88 (NY, US); November 24, 1905, *Nelson & Goldman 7295* (US). Santa Margarita Island: April 9, 1930, *Johansen 617* (CAS, DS); March 19, 1911, *Rose 16284* (UC, US), March 20, 1911, 16284b (NY).

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STUDIES ON THE FLORA OF CHIAPAS, MEXICO—VI

EIZI MATUDA

The present paper, like the preceding ones of this series listed at the end of this paper, is devoted principally to reporting new or otherwise noteworthy species of plants from Chiapas, southernmost of the Mexican states. All of the following material has been based upon the writer's own collections.

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