

A new species of *Gutierrezia* (Asteraceae, Astereae) from Argentina

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Abstract

A NEW SPECIES OF *GUTIERREZIA* (ASTERACEAE, ASTEREAE) FROM ARGENTINA.— *Gutierrezia tortosae* Ratto & Adr. Bartoli, a new species from Argentina, is described and illustrated. The new species resembles *Gutierrezia mandonii* (Sch. Bip.) Solbrig, in having xylopodium, similar shaped leaves, and yellow ray florets, but differs by having erect and rigid stems, erect leaves and smaller heads. A key to differentiate it from the allied species which inhabit in the northwest of Argentina is provided.

Key words: Argentina; new species; taxonomy.

Resumen

UNA NUEVA ESPECIE DE *GUTIERREZIA* (ASTERACEAE, ASTEREAE) DE ARGENTINA.— Se describe e ilustra *Gutierrezia tortosae* Ratto & Adr. Bartoli, una nueva especie de Argentina. Se asemeja a *Gutierrezia mandonii* (Sch. Bip.) Solbrig por presentar xilopodio, por la forma de las hojas y por el color amarillo de las flores liguladas, pero difiere de ella por tener tallos erectos y rígidos, hojas erectas y capítulos menores. Se presenta una clave para diferenciarla de las especies que habitan en el noroeste de Argentina.

Palabras clave: Argentina; nueva especie; taxonomía.

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INTRODUCTION

Gutierrezia Lag. is an American genus, with disjunct distribution in North and South America. The species inhabits xerophytic or halophytic areas in the center-west of the United States and south of Mexico in North America where 18 species were recognised by Nesom (2006). It reappears in southern South America with *ca.* 13 species, of which one inhabits in Bolivia and has been collected in La Paz and Santa Cruz provinces (Solbrig, 1966); and six were recognised in Chile where they inhabit in the regions Metropolitana, I, II, III, IV, V, VI, XI and XII (Zuloaga *et al.*, 2008). In Argentina, according to Zuloaga & Morrone (1999) and Zuloaga *et al.* (2008), the genus *Gutierrezia* grows from Jujuy to Territorio Nacional de Tierra del Fuego and is represented by eight species of which six are endemic. Recently Ratto & Bartoli (2014) described a new species from Mendoza, bringing to nine the species of Argentina with seven of these being endemic.

During the revision of South American species of the genus *Gutierrezia* we found some unusual herbarium specimens from the provinces of Jujuy and Salta that appeared to be different from other species of *Gutierrezia* that grow in these provinces—*G. repens* Griseb. and *G. mandonii* (Sch. Bip.) Solbrig. This prompted the first author (F. Ratto) to make a field trip so as to find other specimens in January 2014. He confirmed in the field that the plants appeared to be most allied to *Gutierrezia mandonii* by having xylopodium with numerous stems, similar leaf shape, and yellow ray flowers, but different in having erect and rigid stems (*vs.* decumbent and herbaceous), erect leaves (*vs.* patent), and smaller heads.

Upon closer examination we confirmed the differences mentioned above and we determined that the specimens represented a new species, *Gutierrezia tortosae* Ratto & Adr. Bartoli which is described here.

RESULTS AND DISCUSSION

***Gutierrezia tortosae* Ratto & Adr. Bartoli, sp. nov.** (Fig. 1).

Gutierrezia tortosae is characterised by having xylopodium, numerous, rigid and erect stems and

erect leaves; and differs by these characters from *G. mandonii*, which is characterised by its decumbent and herbaceous stems, patent leaves and larger heads.

Type: Argentina, Jujuy: Dept. Susques, Angosto de las Burras, 3534 m, 06.02.2014, *F. Ratto 47 et al.* (holotype: BAA; isotypes: BAA, BC, CTES, SI).

Subshrubs 5–25(35) cm, with xylopodium. Stems numerous, erect, rigid, ribbed, glandular, not or few ramified, leafy at the base and loosely foliaceous to the apex. Leaves subcoriaceous, erect, sessile, irregularly toothed at margin, linear-elliptic, with stipitate glandular trichomes and sessile glandular trichomes in pits on both blade surfaces, 5–15 × 1–1.5 mm, acute. Heads radiate, heterogamous, pedunculate, 1–1.5 cm diam., arranged in corymbiform cymes at stem apex; peduncles 5–30 mm, with 1 or 2 linear-elliptic bracts 2–3 mm long. Involucre campanulate, resinous, 4–6 × 3–5 mm. Receptacle flat or slightly convex, naked, pitted, pilose. Phyllaries in 3 graduated series; outer phyllaries oblong, glandular, acuminate, inner phyllaries narrowly obovate, apiculate. Ray florets 6 to 8, pistillate, with lamina yellow, narrowly obovate, 6–7 mm long; style with branches linear-elliptic, apex acute, papillose. Disk florets 12 to 15, perfect, with corolla yellowish, 3–4 mm long, tubular, with an abruptly ampliate throat, 5-lobed. Anthers rounded at the base; apex of connective ovate to ovate elliptic; style branches elliptic, acute, with sweeping papillose trichomes on the outer side. Achenes grey, obovoid-turbinate, densely sericeous; pappus of 10–15 linear-elliptic erose-margined scales, *ca.* 1 mm long in ray florets and 1–1.5 mm long in disk florets.

Etymology: *Gutierrezia tortosae* was named in honour of our Professor Roberto Daniel Tortosa, an Argentine botanist who worked extensively on Rhamnaceae and Asteraceae.

Additional specimens examined: Argentina, Jujuy: Depto. Humahuaca, Esquinas Blancas, 13.02.1921, *A. Castellanos 24* (BA); Depto. Humahuaca, Mina Aguilar, 12.01.1948, *A. L. Cabrera 9186* (BAB); Depto. Humahuaca, Cerro Aguilar, Espinazo del Diablo, 22.02.1953, *J. Hunziker & O. Caso 6158* (BAB); Depto. Humahuaca, Tres Cruces,

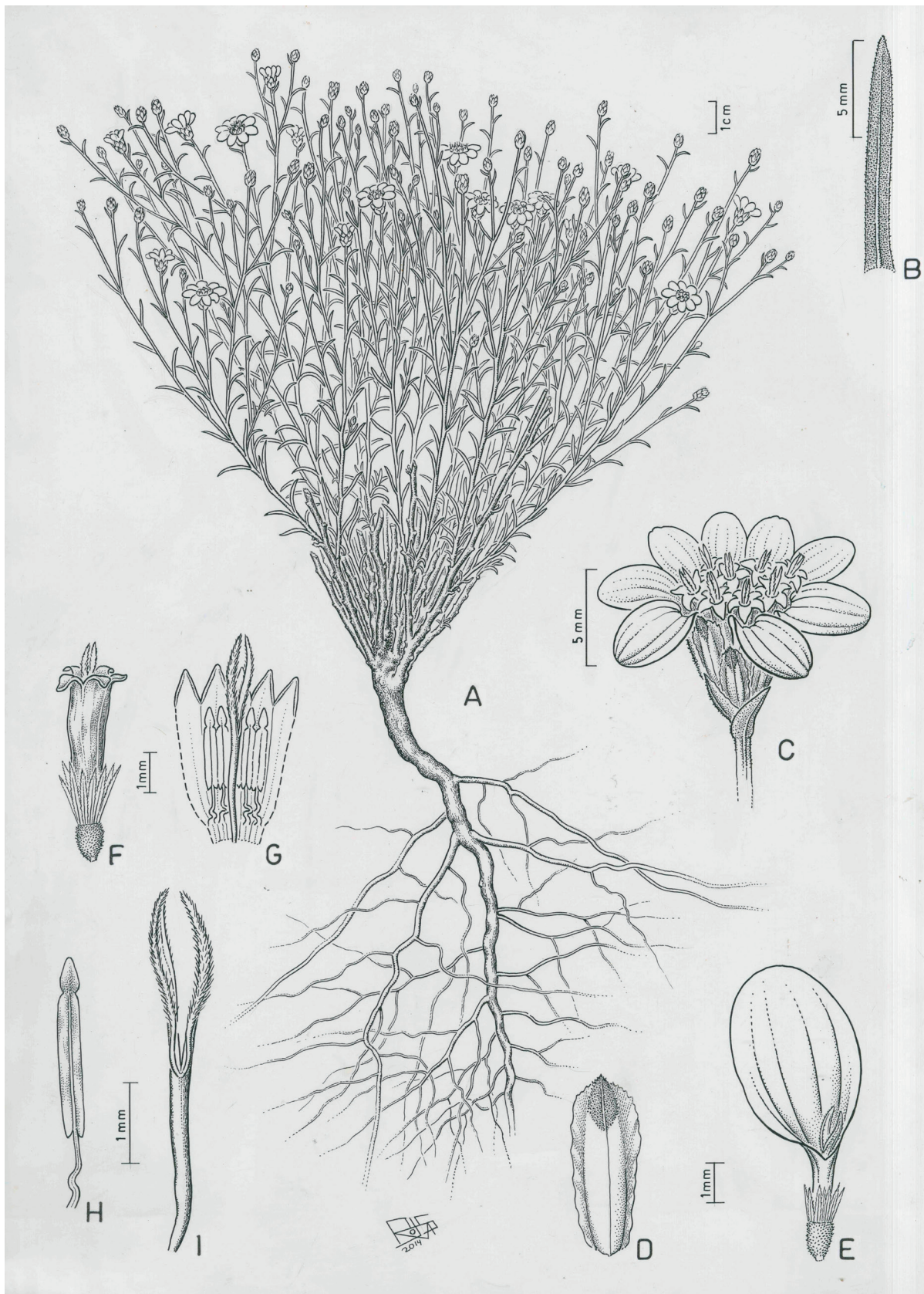


Figure 1. *Gutierrezia tortosae*: (A), habit; (B), leaf; (C), head; (D), phyllary; (E), ray floret; (F), disk floret; (G), detail of androecium and style; (H), anther; (I), style.



Figure 2. General view of type locality of *Gutierrezia tortosae*.

20.02.1959, *H. A. Fabris & J. M. Machionni 1801* (LP); Depto. Humahuaca, Puente del Diablo, 5 km al sur de Tres Cruces, 31.09.1970, *H. A. Fabris & F. O. Zuloaga* (LP); Depto. Humahuaca, desde El Aguilar hasta Agua Blanca, n.v. “canchalagua”, 01.1988, *J. Fernández 3005* (BA); Depto. Humahuaca, Tres Cruces, 07.02.2014, *Ratto et al. 111* (BAA); Depto. Humahuaca, El Aguilar, 11.02.2014, *Ratto et al. 143* (BAA); Depto. Susques, en las afueras de Susques, 07.02.2014, *Ratto et al. 64* (BAA); Depto. Tumbaya, Volcán, 08.02.1960, *T. Meyer 21796* (LIL); Depto. Tumbaya, Abra de los Pives, 10.02.1966, *J. G. Hawkins & K. Hahn 3795* (LP); Depto. Tumbaya, camino de El Angosto a Chaña, 26.02.1972, *A. L. Cabrera et al. 22496* (LP); Depto. Tumbaya, Quebrada de Humahuaca, Volcán, 14.04.1988, *L. Novara 7929* (MCNS); Depto. Tumbaya, Cuesta de Lipán, 21.02.1993, *T. F. Stuessy & J. M. Morles 12992* (LP); Depto. Tumbaya, serranías frente a El Colorado, 07.04.2004, *J. A. Tolaba et al. 3583* (MCNS); Depto. Tumbaya, Cuesta de Lipán, 07.02.2014, *Ratto et al. 85* (BAA); Depto. Tumbaya, Salinas Grandes, 07.02.2014, *Ratto et al. 90* (BAA). Salta: Depto. Iruya, alrededores del pueblo de Iruya,

13.03.1988, *J. A. Hurrel 679* (LP); Depto. Iruya, San Isidro, Pantipampa, 24.03.1994, *M. Quiroga Mendiola 1391* (MCNS); Depto. La Poma, Quebrada de Cobres, 12.03.1945, *A. L. Cabrera 8723* (LP); Depto. La Poma, Cobres, Sierras de Rangel, 06.02.2014, *Ratto et al. 35, 41 y 42* (BAA); Depto. Rosario de Lerma, Santa Rosa de Tastil, 09.02.1946, *A. L. Cabrera 9020* (LP); Depto. Rosario de Lerma, El Chañar, 24.01.1989, *M. O. Arriaga et al. 557* (BA); Depto. Rosario de Lerma, Finca El Toro, 19.02.1995, *S. López 1570* (MCNS); Depto. Rosario de Lerma, Santa Rosa de Tastil, 05.02.2014, *Ratto et al. 11* (BAA); Depto. San Antonio de Los Cobres, Quebrada de Polvorillas, 11.02.1945, *A. L. Cabrera 9631* (LP); Depto. San Antonio de Los Cobres, San Antonio de Los Cobres, camino a Salinas Grandes, 15.12.1946, *A. Krapovickas 3175* (LIL).

Phenology: *Gutierrezia tortosae* flowers from January to July.

Distribution and habitat: *Gutierrezia tortosae* inhabits in the province of Jujuy, departments of

Cochinoca, Humahuaca, Rinconada, Susques, Tilcara, Tumbaya, Valle Grande y Yavi, and in the province of Salta, departments of Iruya, La Poma, Los Andes, Rosario de Lerma and San Antonio de Los Cobres. This species grows on rocky slopes, at elevations ranged from 2000 to 4400 m and it is associated with xerophytic shrubs of the genera *Fabiana*, *Baccharis*, *Junellia*, and *Senecio*, and cacti of the genera *Trichocereus*, *Opuntia*, *Parodia*, and *Lobivia* (Figs. 2 and 3).



Figure 3. *Gutierrezia tortosae*, habit.

Common name: “canchalagua” in aboriginal language refers to a plant used to treat pain (Zardini, 1984).

Taxonomic position: two species of *Gutierrezia* were previously known in the Jujuy and Salta provinces: *G. repens* also grows in Catamarca and Tucumán provinces, and *G. mandonii* also inhabits in Tucumán Province and in the neighbouring country of Bolivia. Both species mentioned above and *G. tortosae* can be distinguished by features found in the following key.

1. Shrubs without xylopodium. Leaves elliptic, 3–4 mm wide. Heads 21–22 mm wide *G. repens*
- Shrubs with xylopodium. Leaves linear-elliptic, ≤ 2.5 mm wide. Heads ≤ 20 mm wide 2
2. Stems erect and rigid. Leaves erect, 5–15 \times 0.5–1.5 mm. Heads 10–15 mm wide *G. tortosae*
- Stems decumbent and herbaceous. Leaves patent, 15–25 \times 1.5–2.5 mm. Heads 18–20 mm wide *G. mandonii*

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REFERENCES

- Nesom, G. L. 2006. *Gutierrezia*. In: Flora of North America Editorial Committee (Eds.), *Flora of North America North of Mexico* 20. Oxford University Press, Oxford: 88–94.
- Ratto, F. & Bartoli, A. 2014. *Gutierrezia mendocina* (Asteraceae, Astereae), a new South American species. *Collectanea Botanica* 33: e002. <http://dx.doi.org/10.3989/collectbot.v33.002>
- Solbrig, O. T. 1966. The South American species of *Gutierrezia*. *Contributions from the Gray Herbarium* 197: 3–42.
- Zardini, E. 1984. Etnobotánica de compuestas argentinas con especial referencia a su uso farmacológico (primera parte). *Acta Farmacéutica Bonaerense* 3(1): 77–99.
- Zuloaga, F. O. & Morrone, O. (Eds.) 1999. *Catálogo de plantas vasculares de la República Argentina* 1 (Monographs in Systematic Botany from the Missouri Botanical Garden, 74). Missouri Botanical Garden Press, St. Louis.
- Zuloaga, F. O., Morrone, O. & Belgrano, M. J. (Eds.) 2008. *Catálogo de las plantas vasculares del Cono Sur (Argentina, sur de Brasil, Chile, Paraguay y Uruguay)* 2 (Monographs in Systematic Botany from the Missouri Botanical Garden, 107). Missouri Botanical Garden Press, St. Louis.