



Gelasine magnifica (Iridaceae: Tigridieae), the magnificent *Gelasine*

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Abstract. [*Gelasine magnifica* (Iridaceae), the magnificent *Gelasine*]

A new species of *Gelasine*, named *Gelasine magnifica*, is described and illustrated for the flora of Rio Grande do Sul state (Brazil), constituting yet another endemic species for the region of the Campos, in the <Pampeana> phytogeographic province. Specimens grow on rocky outcrops of alkaline and sub-alkaline granitic formations in the locality of Suspiro, in the municipality of São Gabriel. *Gelasine magnifica* is close related with *G. elongata*; however, can be distinguished by its larger flower buds, by its bigger flowers with disciform or domed shape of the perigone, by its tepals spreading in an ascendant-oblique angle, between 15° and 30° degrees, by its stamens with longer anthers, and by its longer style, with style-branches oblique or ascendant, filiform, and subulate towards the apex, ending in a semispherical stigmatic portion. The species is considered Critically Endangered, following the criteria of IUCN.

Key words: Campos, São Gabriel, Suspiro locality, Taxonomy, Tigridiinae.

Resumen. [*Gelasine magnifica* (Iridaceae), el magnífico *Gelasine*]

Se describe e ilustra una nueva especie de *Gelasine* para la flora del Rio Grande del Sur (Brasil): *G. magnifica*. *Gelasine magnifica* constituye otra especie endémica de la región de los Campos, de la Provincia Fitogeográfica Pampeana. Los ejemplares crecen en afloramientos rocosos de formaciones de granito alcalino y subalcalino, en la localidad de Suspiro, municipalidad de San Gabriel. *Gelasine magnifica* está estrechamente relacionada con *G. elongata*; sin embargo, se puede distinguir por sus grandes botones florales, por sus flores más grandes, por la forma de disco o abovedada del perigonio, por sus tépalos extendidos en un ángulo ascendente-oblicuo, entre 15° y 30° grados, por sus estambres con anteras más largas y por su estilo más largo, con ramas del estilo oblicuas o ascendentes, filiformes y subuladas hacia el ápice, que terminan en una porción estigmática semiesférica. La especie se considera en Peligro Crítico, según los criterios de la UICN.

Palabras clave: Campos, São Gabriel, Suspiro, Taxonomía, Tigridiinae.

Gelasine Herbert (1840: pl. 3779) sensu Deble (2026a, 2026b) is a small South American genus with only two species, both endemics in the <Pampeana> phytogeographic province of Cabrera & Willink (1980), which roughly corresponds to the Río de la Plata Grasslands (sensu Soriando *et al.* 1992, Bilenca & Miñarro 2004), the largest portion in extent of the Southeast South America grasslands (Di Giacomo & Krapovickas 2005, Azpiroz *et al.* 2012, Deble *et al.* 2025). During a recent botanical expedition searching for the type site of *Nothoscordum collinum* Ravenna (1989: 41) (Family Amaryllidaceae), we were privileged to find a rather unique *Gelasine* species, identified as new at the time of we discovered due to the large size of its flowers, the disciform

to broadly cupulate perigone, with spreading tepals, and the style, with relatively long, subulate style-branches (For further details, see Deble & Pinheiro-Moreira 2026). Thus, this article aims to describe this taxon, complemented by illustrations, photographs, ecological information, and a map of geographic distribution.

Material and Methods

This work forms part of a review of the genus *Gelasine*, which is in its final stages of preparation. The research was carried out by field surveys, and analysis of herbarium specimens, including digital images. The morphological data mentioned in the text and the terminology used follow Ravenna (1984), Goldblatt & Manning (2008), Beentje

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(2010), Deble et al. (2025) and Deble (2025, 2026a, 2026b). The description of the taxa is based on morphological characteristics of plants observed in natural habitat, cultivated specimens and on dry material. For the conservation status of the studied species, the method of Bachman et al. (2011) was applied through the GeoCAT platform, which consists of inserting the occurrence points of the species individually. The software considers the number of populations and the distance between them to calculate the extension of occurrence and the area of occupancy. For the preparation of the drawing of Figure 1 was used watercolor on Bristol paper, and the illustration was performed on cultivated specimen of *Gelasine magnifica*. For the elaboration of Figure 2 and 4 were used photographs of environments, specimens in nature or in cultivation and the boards were edited in the Adobe photoshop program, version 23.x. For the elaboration of figures 3, the base map used is titled <National Geographic World Map>. The software ArcMap version 10.7 was utilized, and the features were created from the base titled Topographic.

Description

***Gelasine magnifica* Deble & B.P. Moreira, *sp. nova*.**

Typus: BRAZIL. Rio Grande do Sul: São Gabriel, Suspiro, localidade de Palmas, meio do caminho entre Palmas e a RS473, 23 September 2025, *L.P. Deble & B.P. Moreira 23017* (holotypus: ICN! isotypus: RB!). Figures 1, 2, 3 and 4.
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Planta 35–65 cm alta. Bulbus mediocribus, ovato-oblongus, 30–45 mm longus et 15–20 mm latus; tunicis externis siccis ochraceis; intimis aurantiacis. Folia basalia 2–5, 29–45 cm longa; lamina linear elliptico-lanceolata 22–34 cm longa, 1–2 cm lata, apex acuminata, base attenuata. Folia caulina 19–38 cm longa; lamina linear elliptico-lanceolata, ensiformia, 14–26 cm longa, 0.8–1.4 cm lata, apex acuminata, base attenuata. Spathae solitariae, pedunculatae, multiflorae; pedunculo 14–25 cm longo; valvae inaequales; exteriora 32–38 mm longa, intima 38–55 mm longa. Perigonium explanatum vel cupulatum, 45–60 mm datum, lilacinium, azureo-violaceum vel violaceum, ad base albidum et indigo-azureo punctatum. Tepala exteriora spatulate vel obovato-oblonga, leviter panduriformia, 29–35 mm longa, 16–21 mm lata; interiora obovato-oblonga 26–31 mm longa, 14–19 mm lata. Columna stamina pallide azureo-lilacina, cylindrica, 4.5–5 mm longa, 1.1–1.3 mm lata. Antherae linear-oblongae, 11.5–13.5 mm longae, 1.1–1.3 mm latae, pollen niveum vel albidoplumbeum. Ovarium clavatum, 7–8.5 mm longum, 2.3–2.7 mm latum. Stylus (rami styli inclusi) 16–19.5

*mm longus; rami styli 4.5–5.5 mm longi, filiformi. Capsula late oblonga vel obovata, 15–22 mm longa, 10–14 mm lata. Semina conica vel tetraedrica 3–4.5 mm longa, 1.5–2.5 mm lata. A *Gelasine elongatae* cui maxima proxima sed perigonium cupulatum 45–60 mm datum (non campanulatum 18–25 mm datum), tepalis ascendentis obliquis (non ascendentis erectis), antherae 11.5–13.5 mm longae (non 7.5–9 mm longae), stylus 16–19.5 mm longus (non 12.5–14 mm longus), rami styli obliqui vel ascendenti, 4.5–5.5 mm longi, filiformi, subulati (non ascendenti vel leviter porrecti, 2.6–3.5 mm longi), productis bene differtis.*

Description— Herb 35–65 cm tall, underground stems 3–8 cm long. Roots fasciculate, straw-colored, thin. Bulb ovoid or ovoid-oblong, 30–45 × 15–20 mm, prolonged in a short collar formed from the accumulation of old cataphylls, quite folded or spiraled; cataphylls bright, reddish-orange, smooth, the older ones with grooves, broadly ovate-lanceolate, apex acute. Basal leaves at anthesis 2–5, 29–45 cm long; blades bluish-green, linear elliptic-lanceolate 22–34 × 1–2 cm; leaf-sheath 7–11 cm × 0.1–0.3 cm, at the base involving the stem, then the distal half are free and become convoluted, resembling a terete petiole. The most basal cauline leaf in the proximal fifth of the stem, 19–38 cm long; blades linear elliptic-lanceolate, ensiform, 14–26 × 0.8–1.4 cm, base attenuate, apex acuminate; leaf-sheath 5–12 cm × 0.5–0.8 cm, involving the stem in almost total length; the upper leaves 1–2, bracteiform, plicate, involving the stem in almost total length, lanceolate, 5–12 × 0.5–0.8 cm, the most distal sheathing the basal part of peduncles. Flowering stems 24–34 cm long, unbranched. Spathe solitary, 45–55 × 9–15 mm, herbaceous, pallid bluish-green, bivalved, 5–11-flowered, pedunculate, peduncles 14–25 cm long; outer valve 32–38 mm long, obtuse-apiculate at the top; the inner 38–55 mm long, obtuse at the top, brownish at the edges, covered with darker parallel strips; pedicel filiform, 50–65 mm long, exceeding the spathe, with a pallid-green or brownish-green straight or slightly curved bracteole. Flower buds fusiform, 29–36 mm long. Flowers 45–60 mm diameter. Perigone disciform to broadly cupulate, lilac, lilac-blue or violet-blue, base with a white macula surrounded by dark-indigo dots. Tepal whorls subequal, spreading in an ascendant-oblique angle (angle between 15° and 30° degrees). Outer tepals spatulate or obovate-oblong, slightly panduriform, 29–35 × 16–21 mm, lilac, lilac-blue or violet-blue, proximal third with a white elliptical shaped macula, 9–12 × 4–5 mm surrounded by dark-indigo dots.

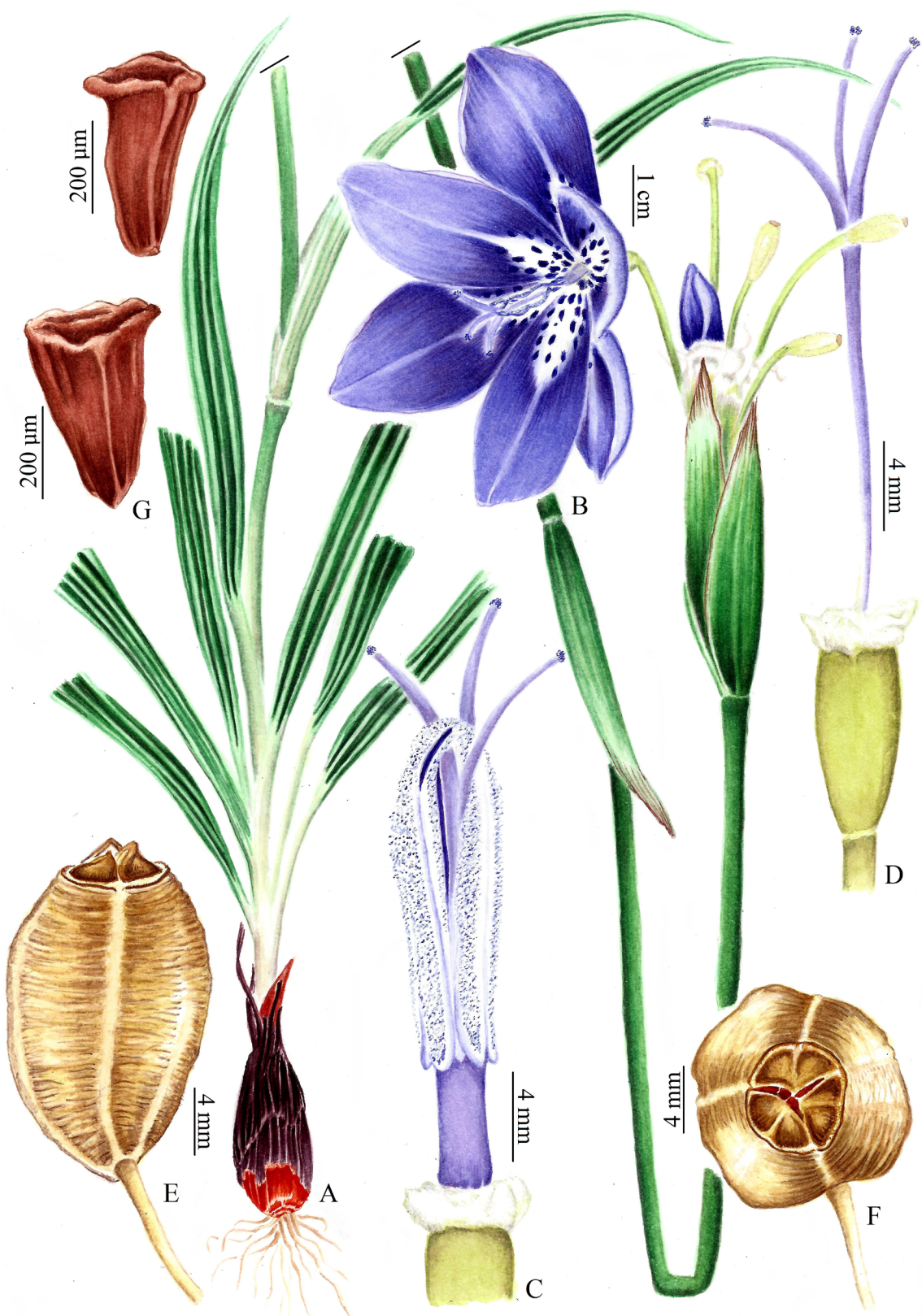


Figure 1. *Gelasine magnifica*. A, Basal part of the plant. B, flowering branch. With spathe and flower, lateral view. C, Flower with tepals removed. D, Gynoecium. E, Capsule. F, Capsule, upper view. G, Seeds.

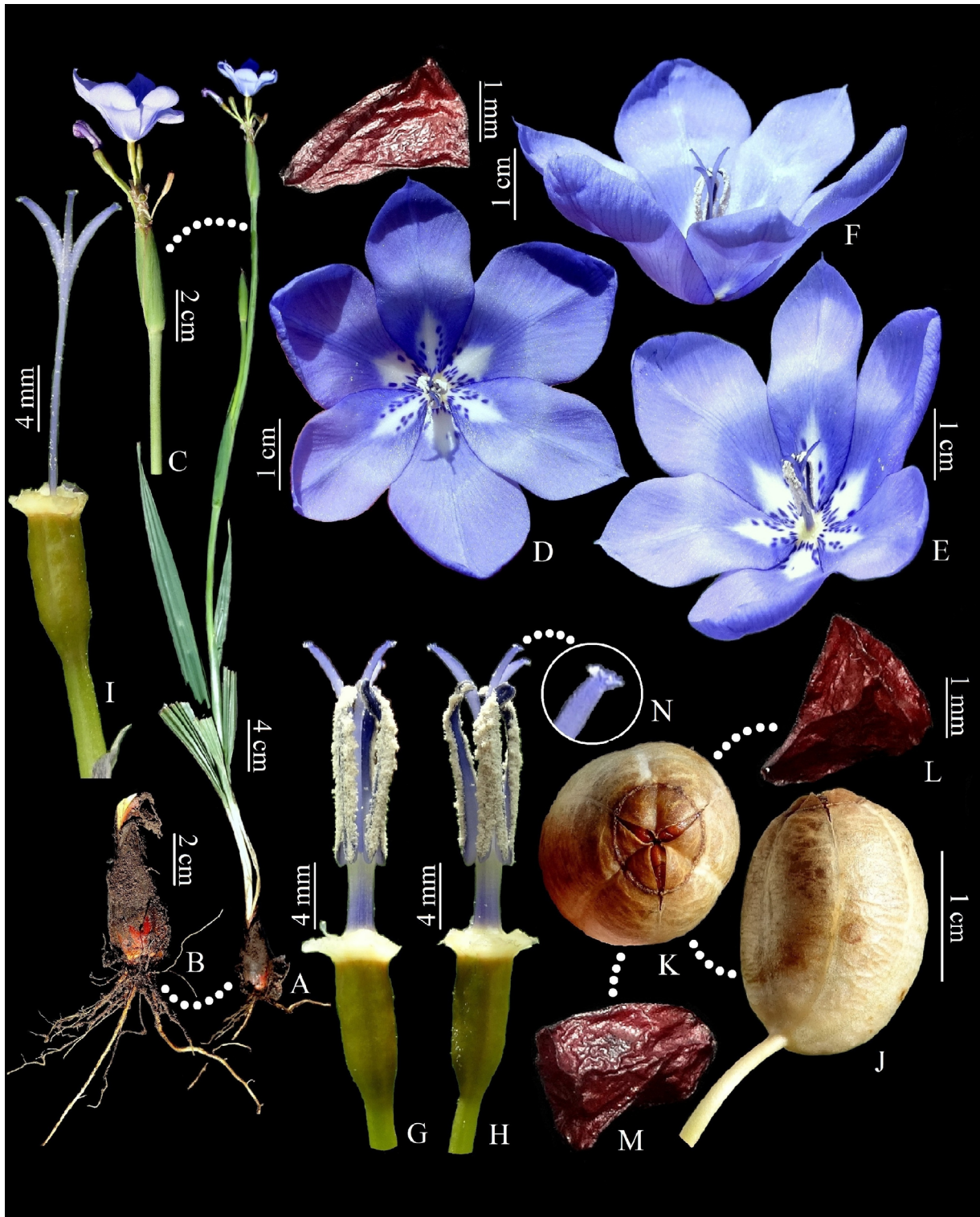


Figure 2. *Gelasine magnifica*. A, Plant. B, Bulb. C, Flowering spathe, lateral view. D, Flower, upper view. E, Flower, inclined view. F, Flower lateral view. G and H, Flowers with tepals removed, in two different views. I, Gynoecium. J, Capsule. K, Capsule, upper view. L, M, Seeds. N, Detail of stigmatic region of style branch. A-C, from L.P. Deble & B.P. Moreira 23017. D-N, from a cultivated specimen

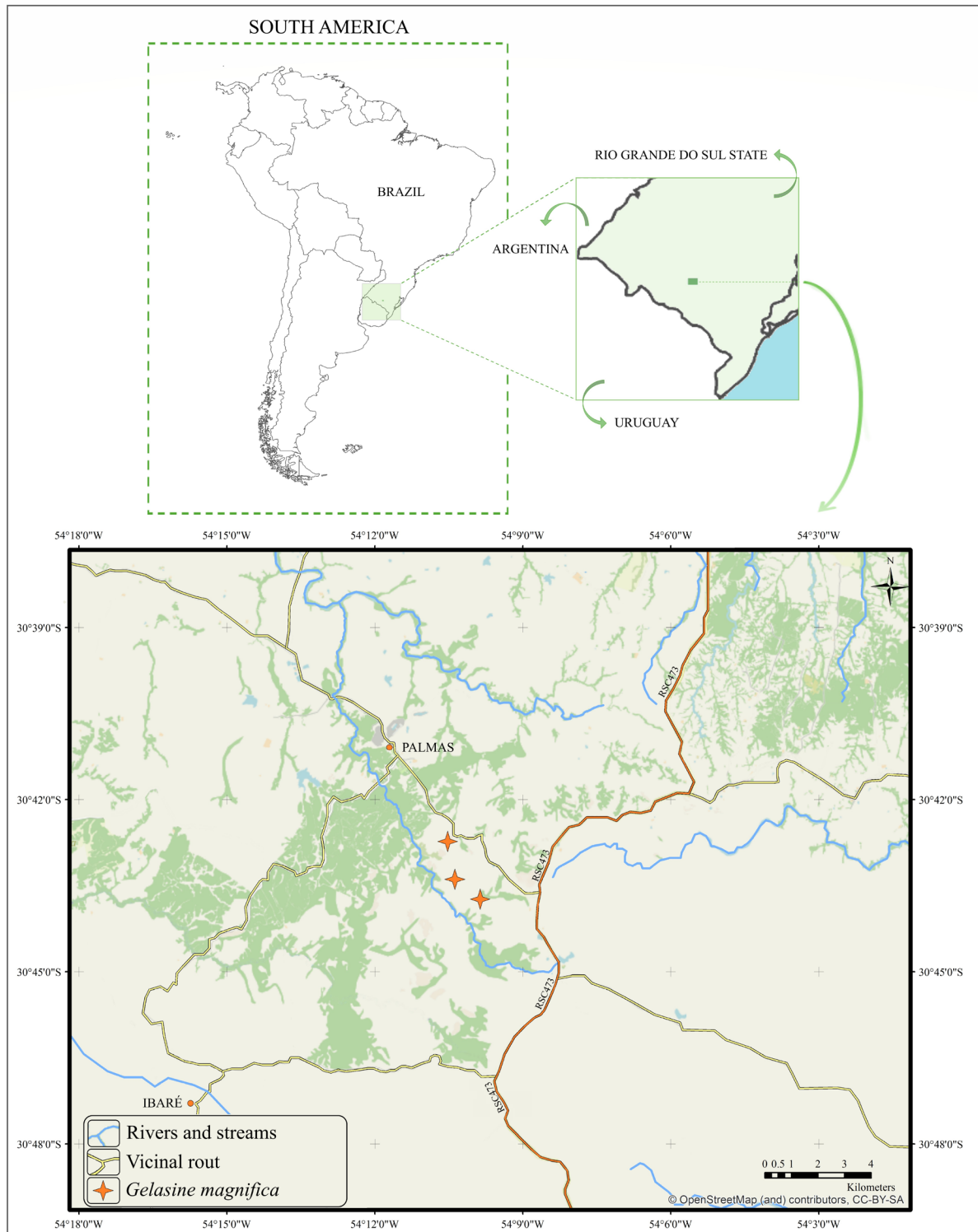


Figure 3. Map of geographic distribution of *Gelasine magnifica* (orange stars).

Inner tepals obovate-oblong, 26–31 × 14–19 mm, lilac, lilac-blue or violet-blue, proximal third with a white elliptical shaped macula, 8–10 × 2.5–4 mm

surrounded by dark-indigo dots. Filaments adnate in a cylindric column, 4.5–5 × 1.1–1.3 mm long, pallid blue or pallid violet-blue, with both ends whitish.



Figure 4. *Gelasine magnifica* in its natural habitat. A, Environments of occurrence. B, Habitat. C, Flower, frontal view. D Flower, lateral view. The white arrows in B indicate the individuals in C and D.

Anthers linear-oblong $11.5\text{--}13.5 \times 1.1\text{--}1.3$ mm; connective violet-blue, $0.6\text{--}0.8$ mm, thecae blue or lilac-blue, pollen white or white-lead. Ovary clavate, $7\text{--}8.5 \times 2.3\text{--}2.7$ mm, slightly angled. Style (including style branches) $16\text{--}19.5$ mm long. Style branches oblique or ascendant, $4.5\text{--}5.5$ mm long, filiform, subulate towards the apex, ending in a semispherical stigmatic portion. Capsule broadly oblong or obovoid, $15\text{--}22 \times$

$10\text{--}14$ mm. Seeds conic or tetrahedral, $3.5\text{--}4.5 \times 1.5\text{--}2.5$ mm, bronze-color or dark reddish-brown, thickened in the margin, epidermis irregularly folded (Figure 1 and 2).

Etymology— From the Latin adjective *magnificus* meaning magnificent, alluding to the flowers, which are very showy when compared to the other two species of the genus.

Vernacular names and uses— Unknown. However, it is ornamental, given its ease of cultivation, long flowering period, beauty, and the size of its flowers.

Phenology— *Gelasine magnifica* blooms during the months of September and October, and fruits during the months of October and November. Individuals in full bloom have been observed in environments that have suffered recent fires, suggesting that these events favor flowering. Cultivated material showed a second flowering period at the end of summer. The flowers open only once, around 10 am, and wither around 2 pm; on colder days, the flowers may remain open until 5 pm.

Distribution and Habitat— *Gelasine magnifica* was found only in rocky outcrops of alkaline and sub-alkaline granitic formations in the locality of Suspiro, in the municipality of São Gabriel (CPRM 2009). Specimens occur on hillsides, in rock crevices, associated with shrubby species, known locally as <vassouras> (sensu Marchiori 2004), among them the daisies *Baccharis tridentata* Vahl and *Heterothalamus alienus* (Spreng.) Kuntze, the <vassoura-vermelha> *Dodonaea viscosa* Jacq. (Sapindaceae). Other species occurring in the same environments are the bulbous *Cypella pusilla* (Link & Otto) Benth & Hook.f. ex B.D.Jackson and *Kelissa brasiliensis* (Baker) Ravenna (Iridaceae) and *Nothoscordum minarum* Beauv. (Amaryllidaceae), <petunias> (*Calibrachoa ovalifolia* and *Petunia bajeensis* T. Ando & Hashim.), <azedinhas> (*Oxalis* spp.), <japecanga> (*Smilax campestris* Griseb.), <aroeira> (*Schinus lentiscifolia* Marchand) and cacti (*Frailea gracillima* (Lem.) Britton & Rose and *Notocactus linkii* (Lehm.) Herter (Figure 3 and 4).

Conservation status— The species is known from a single locality, where 3 populations have been identified, each containing approximately 15 individuals. These populations grow about 200 meters apart from each other, in environments that are being modified by economic activities such as mining and silviculture. Based on the number of known populations, the number of mature individuals, and the observed threats, it is suggested that *Gelasine magnifica* should be preliminarily assessed as Critically Endangered (CR, D), according to IUCN criteria (2012, 2024).

Discussion— *Gelasine magnifica* can be easily recognized by the large size of its flowers and disciform to broadly cupulate shape of perigone. The new species is morphologically close to *Gelasine elongata* (Graham 1830: 173) Ravenna (1988: 64); both taxa have flowers with the same color and tepals base with a white macula surrounded by dark-indigo dots, as well as stamens and styles with similar shape and color. Nevertheless, *Gelasine magnifica* differs from *G. elongata* by its flower buds size (29–36 mm long vs. 15–19 mm long), by its bigger flowers (45–60 mm vs. 18–25 mm), by its disciform or domed shape perigone (vs. campanulate), by its tepals spreading in an ascendant-oblique angle, between 15° and 30° degrees (vs. ascendant-erect angle, between 45° and 65° degrees), by its stamens with longer anthers (11.5–13.5 mm vs. 7.5–9 mm), and by its longer style (16–19.5 mm vs. 12.5–14 mm), with style-branches oblique or ascendant, 4.5–5.5 mm long, filiform, and subulate towards the apex, ending in a semispherical stigmatic portion (vs. ascendant or slightly porrect, 2.6–3.5 mm long, tape-shaped, not subulate, ending in a shortly emarginated stigmatic portion).

Considerations

With the description of *Gelasine magnifica*, the genus *Gelasine* now comprises three species: *G. aureistaminata* Deble (2026a: 26), *G. elongata*, and *G. magnifica*. *Gelasine elongata* has the widest distribution, encompassing northeastern and east-central Argentina, most of Uruguay, and the Brazilian state of Rio Grande do Sul. *Gelasine aureistaminata* is endemic to northwestern Uruguay and southwestern Rio Grande do Sul state, whereas *G. magnifica* is, to date, the species with the most restricted geographic range, growing in a limited area within the municipality of São Gabriel in east-central Rio Grande do Sul (Brazil).

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Declaration of conflicts of interest/competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to undermine the objectivity or integrity of the work reported in this paper.

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Supplementary material

Supplementary material, as photos and additional field observation can be obtained directly via email of the author for correspondence (deble.biol@gmail.com).

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