First record of Plantago commersoniana (Plantaginaceae), a rare and threatened species, in the Central-West region of Brazil
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First record of *Plantago commersoniana* (Plantaginaceae), a rare and threatened species, in the Central-West region of Brazil

**Gustavo Hassemer**, **Osmar dos Santos Ribas** and **Nina Rønsted**

**Abstract:** *Plantago commersoniana* is a rare and threatened species, with a highly disjunct distribution, mainly in southern Brazil. This study expands its distribution to Mato Grosso do Sul state, in the Central-West region of Brazil, due to the discovery of a collection of this species from rocky grasslands in Ponta Porã. This new record is ca. 285 km distant from the nearest known population, in Yhú, Caaguazú department, eastern Paraguay. This is also the first record of a native *Plantago* species in Mato Grosso do Sul. Its conservation status according to the IUCN criteria is Endangered (EN).

**Key words:** distribution extension; Neotropics; new record; rare species; South America
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Plantago commersoniana is absent from the recent floristic survey of the hilly grasslands of Porto Alegre (Setúbal et al. 2011), which is one of the recorded locations for this species (see Figure 1).

Recent (January 2015) field work conducted by GH in southern Brazil — Guaíba and Santana do Livramento municipalities in Rio Grande do Sul state, and Palmeira municipality in Paraná state — did not find any specimens of Plantago commersoniana. His observations during this field work give us reason to believe that some populations of this species are already extinct, or could become so in a near future, due to the advance of agriculture and of invasive Pinus L. (Pinaceae) species, to the detriment of its rare and restricted habitats (Figure 3).

Because of this, we stress that this species needs urgent conservation attention and efforts. Its conservation status according to the IUCN criteria (IUCN 2012, 2014) is Endangered (EN – B2a,b[i,ii,iii,iv,v]). It is necessary to

and P. selloi J.A.Schmidt (Schmidt 1878: 171); the name P. yhuensis has been applied to the Paraguayan collection of this species (Hassler 9471, G), but it is a nomen nudum.

The discovery of a population of Plantago commersoniana in Mato Grosso do Sul does not improve the conservation situation of this species. Plantago commersoniana is a rare species, with a sparse and discontinuous distribution, and its few recorded populations are small and isolated (Rahn 1966, 1974). These populations are likely in decline due to the ongoing destruction of its habitats, which could be verified during recent field work conducted in some localities where this species has been collected in the past. It is probable that this species is already extinct in Uruguay, a hypothesis already pointed by Rahn (1966, 1974), who did not find other collections of this species from that country apart from the type, collected in 1767 around Montevideo, southern Uruguay. Additionally, P. commersoniana is absent from the recent floristic survey of the hilly grasslands of Porto Alegre (Setúbal et al. 2011), which is one of the recorded locations for this species (see Figure 1).

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Figure 2. Scanned image of the collection of Plantago commersoniana (G.G. Hatschbach et al. 76667, MBM) from Ponta Porã, Mato Grosso do Sul state, Brazil.
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correct the conservation status of *P. commersoniana* in the “Red List of the Brazilian Centre for the Conservation of the Flora” (Kutschenko and Messina 2012), where its conservation status has been assessed as Least Concern (LC). Additionally, *P. commersoniana* is absent from the “Red Book of the Flora of Brazil” (Martinelli and Moraes 2013).

In addition to serious conservation issues, *P. commersoniana* is also notable for its very complicated and unsatisfactorily resolved taxonomy, like many other *Plantago* species (Meudt 2011; Hassemer et al. 2015b; Shipunov 2015). This species is morphologically very variable between regions, especially regarding leaves and roots, and its distribution is highly disjunct. There is mostly a continuous variation for these characters, though, which makes it difficult their use for classification. In some localities, specimens of *P. guilleminiana* Decne. (Decaisne 1852: 722–723), a fairly frequent species, endemic to high-elevation grasslands in southern Brazil, exhibit some morphological characters similar to *P. commersoniana*. Following the judgement of Rahn (1974), all these doubtful collections are presently identified as *P. guilleminiana*. Therefore, we can consider the *P. commersoniana* complex an important challenge to plant taxonomy and conservation in the Neotropics, one of the world’s most important hotspots of plant diversity (Antonelli and Sanmartín 2011; Hassemer et al. 2015a).

**MATERIAL EXAMINED**


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**Figure 3.** Habitats of *Plantago commersoniana* being invaded by *Pinus* sp., which kills the plants native to these areas by shading. Both areas were photographed by GH in 2015. A: Location of the only collection of *P. commersoniana* from Palmeira municipality, Paraná state, Brazil (collected by OSR in 1997). B: Location of the only collection of *P. commersoniana* from Guaíba municipality, Rio Grande do Sul state, Brazil (collected by Nelson Ivo Matzenbacher in 1994, who kindly helped GH to find this area).

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Authors’ contribution statement: GH revised the herbarium collections, wrote the text, authored the photographs, produced the map and prepared the figures. OSR first identified the collection from Ponta Porã, and GH confirmed the identification. NR and OSR revised the text.

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