

SCROPHULARIACEAE

ANTICHARIS JUNCEA, AN OVERLOOKED RECORD FOR SOUTH AFRICA, WITH NOTES ON ITS TYPE LOCALITIES AND FLOWER MORPHOLOGY

The genus *Anticharis* Endl. consists of ± 10 species in Africa, Arabia and India, six of which are known from the *Flora of southern Africa* region (Smithies 2000). The plants are small, erect or suberect perennials (rarely annuals), sometimes suffruticose herbs or dwarf shrubs, glabrous to glandular-pubescent with alternate, entire leaves. The purple corolla tube is elongated and broad with a wide open, usually white throat. *Anticharis* is easily distinguished from the genera *Aptosimum* Burch. ex

Benth. and *Peliostomum* E.Mey. ex Benth (all members of tribe Aptosimeae) by having only two fertile stamens and not four (Hiern 1904; Smithies 2000).

In recent floristic inventories only two species of *Anticharis*, namely *A. scoparia* (E.Mey. ex Benth.) Hiern ex Benth. & Hook.f. and *A. senegalensis* (Walp.) Bhandari, are listed as occurring in South Africa (in Northern Cape and in Northern Cape and Limpopo respectively) (Smithies & Ready 2003; Smithies 2006).

A specimen of *A. juncea* L.Bolus (Steyn 1696), collected during a field trip to the Northern Cape in August 2009, was initially thought to be the first record of the species for South Africa. Up to now *A. juncea* (= *A. genistoides* Schinz) was considered in regional inventories as being confined to Namibia (Smithies & Ready 2003). The purpose of this contribution is to report on the floristic significance of this find, to provide clarity on the original collecting localities of the species and to designate a lectotype. The availability of live material also permits a more complete morphological description of the flowers, and we provide the first close-up images of the fresh flowers to be published for the species.

An investigation into the localities of the specimens of *Anticharis juncea* housed in PRE and NBG proved informative. These collections are incorporated in the National Herbarium's Pretoria (PRE) Computerised Information System (PRECIS), a mega-database used, amongst others, to produce checklists of the South African flora and to plan itineraries of collecting trips. Most collections of *A. juncea* are from the Warmbad District

(Namibia) but the protologue of *A. juncea* cites three syntypes, Pearson 3609 and 3600 from Bushmanland and Pearson 4002 from Great Namaqualand, south of Warmbad, Namibia (Brown *et al.* 1915). The specimens from Bushmanland were collected near a place called Wortel in January 1909. There are a number of references to a place with the name of Wortel. These range from the Rehoboth area (Bethanie District) of Namibia in the north to Gamoep further south in the Namaqualand part of the Northern Cape of South Africa. A close look at Pearson's itinerary reveals that he was collecting in Bushmanland (South Africa) during December 1908 and January 1909. Only in late January 1909 did he start collecting in the Bethanie District, Namibia. It is very likely that Pearson's specimens from Bushmanland were collected near the Farm Wortel (2918BB), northwest of Pella, South Africa. Pearson was therefore not only the first botanist to have discovered *A. juncea*, but also the first to have collected herbarium material of this species in South Africa, a record which has hitherto not been reflected by floristic inventories.

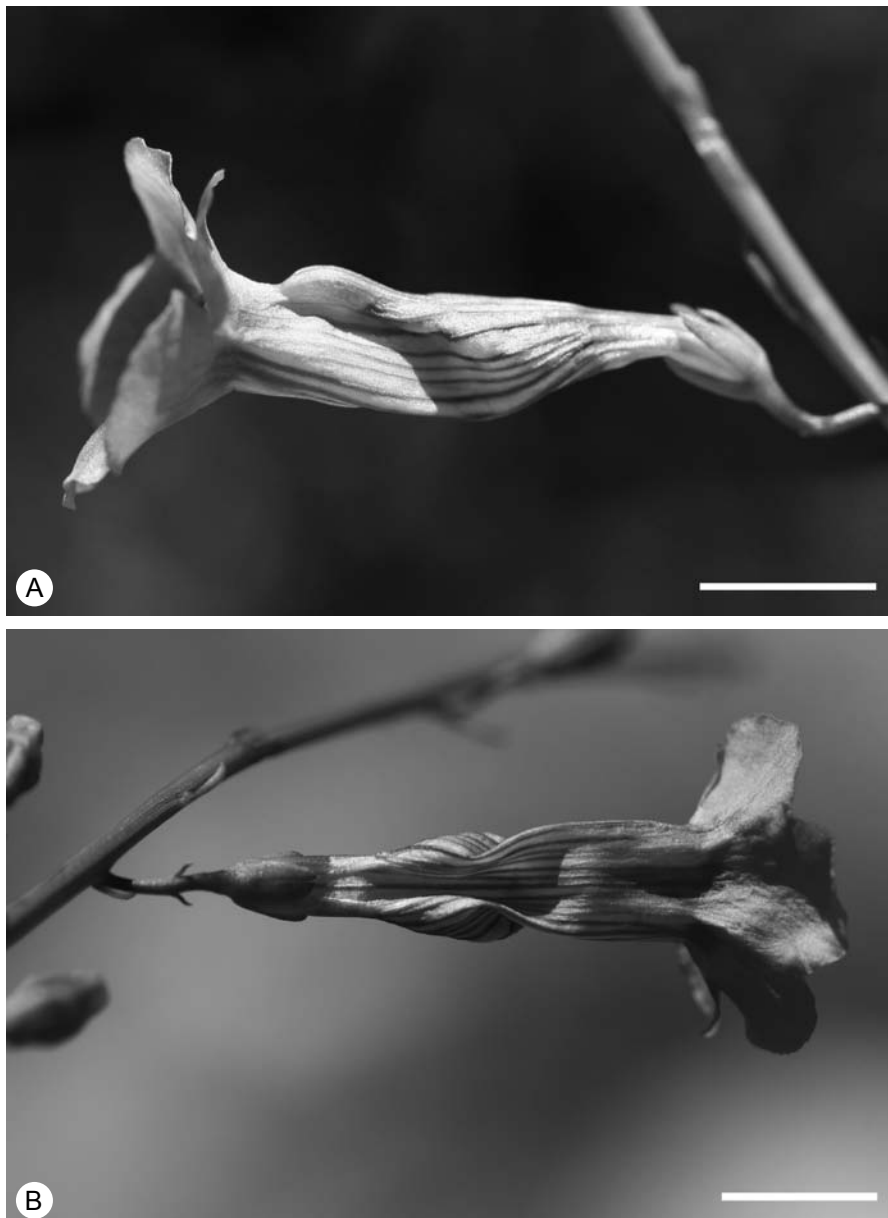


FIGURE 9.—*Anticharis juncea*, close-up of corolla, A, side view; B, view from below. Scale bars: 5 mm. Photographs: M. Koekemoer.

Anticharis juncea is a glabrous, perennial shrublet up to 300 mm high, with striate stems that are almost leafless to distantly leafy, with alternate, narrow, linear leaves, $2-5 \times 1$ mm. The flowers are axillary, solitary, tubular and carried on a bi-bracteolate pedicel, 2–4 mm long. The corolla tube is 18–21 mm long, purple, narrow at the base and dilated distally, with two shallow, lateral pouches (or pockets) near the base, a prominent, dorsal pouch towards the distal end, a marked diagonal constriction, best seen from the side, and a longitudinal, ventral groove in the proximal half (Figure 9A, B). These floral features are clearly visible in live material but are obscured when the flowers are pressed and dried, although the presence of pouches can be vaguely discerned. The two fertile anterior stamens are inserted above the base of the corolla and extend a little beyond the middle of the corolla tube. The capsule is ovate, bisulcate with an acute apex and dehisces mainly septicidally but also loculicidally. Although the specific pollinator(s) of *A. juncea* is unknown, there is a marked and widespread association between pollen wasps (Vespidae: Masarinae) and the members of the Scrophulariaceae tribe Aptosimeae (Benth.) Benth. & Hook.f., namely *Aptosimum* Burch. ex Benth., *Peliostomum* Benth. and *Anticharis* (Gess & Gess 2004, 2010).

Although it most closely resembles the mainly annual *Anticharis senegalensis*, *A. juncea* differs from the former in being perennial, glabrous, with fewer, smaller leaves and shorter pedicels (Brown *et al.* 1915). The three South African species may be distinguished using the following key:

- 1a Plants perennial or annual, glandular-pubescent:
 2a Plants usually annual; leaves linear, 10–40 mm long; pedicels 8–12 mm long *A. senegalensis*
 2b Plants perennial; leaves linear-lanceolate, 4–13 mm long; pedicel 3–8 mm long *A. scoparia*
 1b Plants perennial, glabrous; distantly leaved, leaves linear, 2–5 mm long; pedicel 2–4 mm long *A. juncea*

Anticharis senegalensis [= *A. linearis* (Benth.) Hochst. ex Asch.] has a wide and markedly disjunct transequatorial range, occurring in Limpopo and North-

ern Cape in South Africa, Botswana, Namibia (Figure 10), also in Angola and Zimbabwe in the south, then further north in arid parts of North Africa through Arabia to India. The distribution of *A. juncea*, on the other hand, is much more restricted, with all known records confined to a small area in the extreme south of Namibia and adjacent parts of the Northern Cape. It is usually found on stony or rocky soils within the Succulent Karoo Biome (Rutherford & Westfall 1968), or the Desert Biome in South Africa and the bordering Nama-Karoo Biome in Namibia (Mucina & Rutherford 2006). Biogeographically, *A. juncea* is endemic to the Gariep Centre of Endemism (Van Wyk & Smith 2001), in particular the very hot and arid, deeply dissected region along the Lower Orange River Valley, downstream from the Augrabies waterfalls. The distribution of *A. juncea* overlaps with that of *A. scoparia*, also a perennial and Gariep Centre endemic, but a species with a more northwesterly range (Figure 10). *A. scoparia* is glandular-pubescent with linear-oblong leaves (Hiern 1904).

Anticharis juncea is an example of a species that was overlooked and left out of South African floristic checklists for more than 100 years since its first discovery, because of the incorrect interpretation of the localities in the protologue. Computerized herbarium specimens offer improved access to large quantities of data as well as expanded analytical potential (Rhoads & Thompson 1992). However, to be analysed spatially, botanical data must have locality information that can be related to a point on a map. It is very important that the locality information should be related to the **correct** point on a map.

***Anticharis juncea* L.Bolus** in N.E.Br., L.Bolus & E.Phillips in Annals of the South African Museum 9,4: 263, 264 (1915). Type: Northern Cape, 2918 (Gamoep): Bushmanland, Wortel, pass near base of kopje. (–BB), 10 Jan. 1909, *Pearson 3600* (BOL, scan!, lecto., designated here).

Note: all three syntypes mentioned in the protologue are mounted together on the same sheet in BOL where Louisa Bolus worked. The three collections are, however, clearly delineated by pencil lines and each has its own label. The syntype *Pearson 3600* is considered the better specimen and is chosen here as lectotype. There are two sheets of the syntype *Pearson 3609* in NBG [marked I and II]. Sheet II represents *Anticharis juncea* and although it carries the number 3609, is rather confusingly numbered and apparently contains material from two different collections. On one of the two specimens mounted on this sheet is a field note with the number 5413. At a later stage, someone has written 4002 on it, this number being that of the third Pearson syntype.

Other specimens seen

NAMIBIA.—2818 (Warmbad): Great Namaqualand [southern Namibia], kopje south of Warmbad, (–CD), 27 Jan. 1909, *Pearson 4002* (BOL, scan!); Goodhouse Poort, (–CD), 22 June 1989, *Van Wyk 8639* (PRE). 2819 (Ariamsvlei): Warmbad Dist., 16 miles [25.6 km] SSW of Charly's Puts, Geinab Gorge, (–BA), 17 May 1955, *Acocks 18173* (PRE); Warmbad Dist., Farm Vellorsdrift: WAR 93, Granitberge am Oranje bei Brücke, (–CB), 17 May 1963, *Giess, Volk & Bleissner 7051* (PRE); Warmbad, ± 1 km NW of Orange River along road between Onseepkans and Karasburg, (–CB), 1 Feb. 1974, *Davidse & Loxton 6197* (PRE).

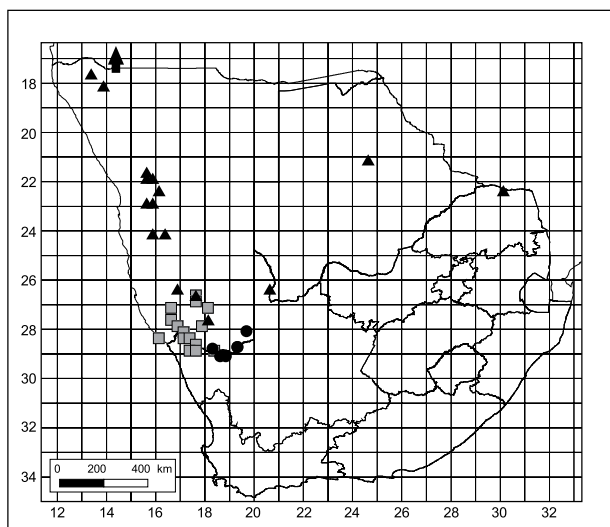


FIGURE 10.—Known distribution of *Anticharis juncea*, ●; *A. scoparia*, ■; and *A. senegalensis*, ▲.

NORTHERN CAPE.—2918 (Gamoep): ridge E of Goodhouse turn-off en route to Klein Pella, (–BA), 23 Aug. 2009, *Steyn 1696* (PRE); Bushmanland, near Wortel, (–BB), 10 Jan. 1909, *Pearson 3609* (BOL, scan!; NBG Sheet I, scan!).

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