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Pitcher Plants of the Old World

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Nepenthes rigidifolia Akhriadi, Hernawati & Tamin

Original description; Akhriadi, P., Hernawati & Tamin, R., 2004, *Reinwardtia* 12: 141–144

The specific epithet is derived from the Latin *rigidus* (rigid) and *folius* (leaf) and refers to the stiff, leathery texture of the leaves of this species. *Nepenthes rigidifolia* does not have any synonyms or infraspecific taxa. Prior to its description, this species was informally referred to as *N. alpicola* and *N. aptera*, but these names should be disregarded.

Nepenthes rigidifolia is known only from one small population near Sidikalang in the Karo Regency, North Sumatra. Originally, only 24 plants were observed in the wild (Akhriadi *et al.*, 2004). It appears that the number of plants remaining in the wild has since declined, putting this species at serious risk of extinction. *Nepenthes rigidifolia* grows terrestrially at altitudes of 1000–1600 m, in montane forest and scrub. It forms a branched stem up to 10 m long and naturally hybridises with *N. spectabilis*. Hybrids with *N. spectabilis* may now outnumber pure *N. rigidifolia* plants in the wild (Stewart McPherson, pers. observ., 2007).

The lamina is thick, stiff, leathery, spatulate, oblong or ovate, up to 21 cm long and 8 cm wide. The apex of the leaf is acute, obtuse or rounded and occasionally sub-peltate, the tendril emerging from the leaf a few millimetres below the apex. The base of the leaf is attenuate and clasps the stem. The lamina is green and the stem, midrib and tendril may be yellow, green, orange or red. The tendril, pitchers, stem and parts of the inflorescence may be lined with short orange or brown hairs up to 1 mm long, but these and all other parts of the plant may be entirely glabrous.

The lower pitchers are up to 15 cm tall and 6.5 cm wide. The traps are wholly ovate, narrowing obviously below the peristome (Figure 1). Wings up to 2 mm wide, fringed with narrow filaments up to 5 mm long, extend down the front of the pitcher for a short distance before

Figure 1 (facing page). A lower pitcher of a *N. rigidifolia* plant photographed at the type locality in North Sumatra.

becoming reduced to narrow ridges. The peristome is cylindrical, up to 21 mm wide, and lined with fine ribs up to 0.5 mm high, spaced up to 1 mm apart. The outer margin of the peristome is recurved and may be slightly crenellated. The inner margin curls downwards and extends into the pitcher opening for several millimetres. The ribs form teeth up to 1 mm long on the inner edge of the peristome. The lid is elliptic or ovate, often with a cordate base, up to 5.2 cm long by 3.5 cm wide, and lacks an appendage. The spur is up to 12 mm long, and may be unbranched (Stewart McPherson, pers. observ.) or trifid (Akhriadi *et al.*, 2004).

The exterior of the lower pitchers is olive green, orange or brown, and mottled heavily with dark purple, brown or black blotches. The interior is light yellow, light green or creamy white, and speckled with dark red, dark purple or black. The peristome is dark red, dark brown or black, and the lid is dark red, dark brown or black, but often lighter on the underside.

The upper pitchers are up to 21 cm tall and 9.4 cm wide. The lower third of the pitcher is broadly infundibular, becoming ovate above. The width of the trap narrows below the peristome, as in the lower pitchers (Figure 2). The wings are entirely reduced to narrow ridges or are hardly discernible. The peristome is cylindrical, up to 25 mm wide, and lined with ribs up to 0.5 mm high, spaced up to 1 mm apart. All other parts are similar to the lower pitchers, except for the lid, which is up to 8 cm long and 4.5 cm wide.

The upper pitchers are coloured in a similar fashion to the lower pitchers, but are often lighter.

The inflorescence is a raceme, to 8 cm long. The peduncle is up to 4.2 cm long and the rachis to 3.9 cm long. Flowers are borne on 2-flowered partial peduncles, with a filiform bract to 2 mm near the base, and pedicels to 6 mm long. Tepals are ovate-oblong, to 5 mm long,

Figure 2 (facing page). The upper pitcher of a cultivated *N. rigidifolia* plant.



and the anther head is borne on a column up to 4 mm long. *Nepenthes rigidifolia* is one of only a few *Nepenthes* species known to produce multiple inflorescences concurrently on a single stem. This has also been observed in *N. ampullaria*, *N. benstonei*, *N. sanguinea* (Clarke, 2001), *N. alba*, *N. attenboroughii* and especially *N. philippinensis*.

The lower pitchers of *N. rigidifolia* may appear similar to those of *N. spectabilis*, but these species differ strikingly in colouration, and the upper pitchers of *N. rigidifolia* are also broad and voluminous, rather than narrow and cylindrical, as in *N. spectabilis*.

Nepenthes rigidifolia may also be similar to *N. bongso*, *N. ovata* and associated species, but is distinguished from these species by its thick, stiff, leathery foliage, its narrower, generally cylindrical peristome with small teeth, and its ovate upper pitchers.

Further field observations are urgently required to assess whether or not the wild population of *N. rigidifolia* truly is restricted to the type locality or whether the species is more widely distributed than currently believed. If the type population does represent the only occurrence of *N. rigidifolia* in the wild, this species is threatened with imminent extinction.