We describe a new subspecies of Gasteria croucheri (Hook.f) Baker from northern Pondoland, Eastern Cape, an obligate creminophyte belonging to Gasteria Duval sect. Longiflorae Haw. sect. Longiflorae Haw. The members of this series are all characterized by narrow, elliptical, comparatively dull-coloured flowers in which the swelling in the upper half approximates the rather unpronounced basal gasteriform portion (Van Jaarsveld et al. 1994). Mature specimens of the new taxon produce both leaves (up to 1.5 m long) and flowers (up to 50 mm long) that are exceptionally long in the genus. To date, plants have only been found in the Msikaba and Mtentu River systems adjacent to Mkambati Game Reserve (Figure 8), the topography of which is characterized by rugged plateaus of 100–500 m, dissected deeply by narrow river gorges. This distribution falls within the Pondoland Centre of Plant Endemism (Van Wyk & Smith 2001). Specimens grow on cliffs both fully exposed on southern aspects, as well as within the shaded margins of riverine forest. It is a clump-forming species with long, angular and often sickle-shaped leaves, most of which are pendulous in mature specimens (Figure 9).

**Gasteria croucheri** (Hook.f) Baker subsp. **pondoensis** N.R. Crouch, Gideon F.Sm. & D.G.A.Styles, subsp. nov.

A subsp. *croucheri* differs from *pendulifolia* foliis usque ad 1.5 m longis, dum Flores sui 50 mm longi longitudines antea in ceteris dubuis sub-speciebus recognitas excedentes. Subspecies nova ad habitacionem specialem in regio geographica speciei restricta.

**TYPE.**—Eastern Cape, 3130 (Port Edward): rocky ledge alongside Lukabeni stream, 4.5 km upstream of Mtentu River mouth, (–AA), 04-01-2009, N. Crouch & D. Styles 1149 (NH, holo.).

Plants acaulescent, decumbent to rarely erect, 250–400 mm tall, up to 600 mm diam., solitary, dividing or proliferating from base to form dense groups. **Roots** succulent, up to 6 mm diam. **Leaves** rosulate, erectly spreading, rarely patent or recurved, triangular-linear-lanceolate to falcate, rarely lorate, 200–1 500 mm long, 30–100 mm broad at base; adaxial surface broadly canaliculate, plane towards apex, abaxial surface somewhat convex with a distinctly tuberculate-errulate excentric keel; both surfaces dark green, often glaucous, with dense white to concolorous spots arranged hap-
Flowering time: December to February.

In the latest revision of *Gasteria* (Van Jaarsveld 1994), over 100 available names (Schelpe 1958) were consolidated to 16 species, with a total of 22 taxa. A subsequent synopsis (Van Jaarsveld 2007) indicated that further research had by that date resulted in the recognition of an additional seven species, bringing the total number of taxa to 34. Included in this revised number were two new taxa described from KwaZulu-Natal, the most recent of which was *G. tubkelemisis* Van Jaarsv. from the lower Tukhela River near Kranskop (Van Jaarsv. & Van Wyk 2005). Forms of *G. croucheri* previously referred to as cultivars ‘Shongweni’ and ‘Umgeni’ from near Durban (Van Jaarsveld 1994) were also collectively described as *G. pendulifolia* Van Jaarsv. (Van Jaarsv. & Van Wyk 2001), but were subsequently reduced to subspecific rank (*G. croucheri* subsp. *pendulifolia* (Van Jaarsv.) Zonn.) following total nuclear DNA analyses (Zonneveld & Van Jaarsveld 2005).

Van Jaarsveld & Van Wyk (2005) distinguished *G. croucheri* subsp. *pendulifolia* from the typical subspecies on account of its smaller size, prolific clustering habit, and pendulous leaves that are narrow, glaucous and with an entire margin. The flowers are also predominantly white infused pink basally, whereas those of subsp. *croucheri* are pinker throughout, with more prominent green striations apically. The typical subspecies has been reported as larger, with leaves ascending to spreading, and a lower propensity for cluster-forming (Van Jaarsveld & Van Wyk 2001; Van Jaarsveld 2007). Based on their somewhat broader concept for *G. croucheri* subsp. *croucheri*, Van Jaarsv. & Van Wyk (2001) reported the typical subspecies to occur from Durban southwards to the Msikaba River in the Eastern Cape. Subspecies *croucheri* is presently not known from the Msikaba and Mtentu River gorges, but has been observed beyond the range of subsp. *pendulifolia* to as far south as the Mzimvubu River where plants were found on shale cliffs ± 15 km inland of the coast (Van Jaarsveld & Van Wyk 2003). Populations of subsp. *pendulifolia* occur towards the southern end of the range of subsp. *croucheri*, and are separated geographically from the similarly pendulous-leaved subsp. *pendulifolia* by a distance of 150 km. The three subspecies of *Gasteria croucheri* are thus allopatric. As stated above, the leaves of subsp. *pendulifolia* are often significantly longer than those of both other subspecies, for they may attain lengths of up to 1.5 m. By comparison, those of subsp. *croucheri* are only 0.36 m long, whereas those of subsp. *pendulifolia* are little more than 0.45 m long (Van Jaarsveld & Van Wyk 2001). The perianth size of subsp. *pendulifolia* is longer than both its closest relatives, attaining 50 mm compared to 40 mm; they are similar in colour to subsp. *croucheri*.

*Gasteria croucheri* subsp. *pendulifolia* occurs in a summer rainfall coastal region, where it is associated with Scarp Forest (FOz 5), a vegetation unit which today exists as an archipelago of scattered patches ranging in altitude from near sea level to 600 m (Rutherford et al. 2006). This *Gasteria* has, however, not yet been found at altitudes higher than 200 m. Particularly fine specimens may be seen on cliffs at the Superbowl on the Msikaba, and along the Mtentu fringe about 3.5 km upstream of the mouth. Both these two deep gorges have likely provided stable forest refugia for this and other endemic taxa, which have been unable to escape their enclave as a result of susceptibility to, *inter alia*, hot seasonal fires in the surrounding sourveld grasslands (Edwards 2005). *G. croucheri* subsp. *pendulifolia* grows on cliff...
faces and on rock ledges in dense subtropical vegetation that includes the following shrub and tree species: Helichrysum populifolium, Draecena aletriformis, Encephalartos arenstenii, Grewia pondoensis, Commiphora harveyi, Jubaecopsis caffra, Strelitzia nicolai, and Tarchonanthus trilobus. Associated crassmorphic succulents include Aeonlansus parvifolius, Aloe arborescens, Bulbine sp., Crassula multica sp subsp. multicavca, C. orbicularis, C. pellucida, C. streyi, Delosperma sp., Ischnolispis natalensis, Plectranthus saccatus subsp. pondoensis, Rhipsalis baccifera subsp. mauritiana, Senecio medley-woodii and S. oxydonta.

At species level, the Red List status for Gasteria croucheri has recently been evaluated as Vulnerable (A2d) (Van Jaarsveld & Raimondo 2009) based on extensive and unsustainable harvesting for the trade in traditional medicine (Crouch et al. 2000). For this purpose, subsp. pondoensis will undoubtedly be as sought after as its sister taxa. In favour of its conservation, G. croucheri subsp. pondoensis should find refuge in suitable habitats along both the northern and southern boundaries of the Mkambati Game Reserve.

The subspecific epithet pondoensis is a geographic indicator of the presently known distribution of this Pondoland endemic.

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MARCHANTIOPHYTA
NEW LIVERWORT DISTRIBUTION RECORDS IN SOUTH AFRICA

New provincial records of thallose liverworts, identified since the publication of the latest checklist of South African liverworts (Perold 2006) are reported here. The new records are based on specimens in the bryophyte collection of the National Herbarium, Pretoria (PRE). Taxonomy and nomenclature follow Perold (2006). The thallose liverworts of southern Africa were revised by Perold (1999).

1. Asterella wilmsii (Steph.) S.W.Arnell


2. Dumortiera hirsuta (Sw.) Nees

FREE STATE.—2828 (Bethlehem): Fouriesburg, Meiringspoort Nature Park, 28°36'19"S, 28°13'46"E, 1 381 m, on soil under rock overhang in moist bog, (–CA), 15 July 2001, M. Kockemoor 2057 (PRE).

3. Exormotheca pustulosa

FREE STATE.—2828 (Bethlehem): Fouriesburg, Meiringspoort Nature Park, 28°36'19"S, 28°13'46"E, 1 381 m, on soil under rock overhang in moist bog, (–CA), 15 July 2001, M. Kockemoor 2057 (PRE).

NORTHERN CAPE.—2822 (Glen Lyon): ± 51 km N of Grieswastad, Rudisheim Farm, on soil, (–DD), 5 Jan. 2000, S.M. Perold & M. Kockemoor 4341 (PRE).

WESTERN CAPE.—3320 (Montagu): just outside Montagu at the arched rock, above outspan, 33°48'32"S, 20°05'55"E, 223 m, on soil,