

EXTINCT & THREATENED

APOCYNACEAE

Adenium boehmianum Schinz

Status: EN D

Very distinctive-looking plant. Apparently known from only a single Botswana field observation in the hills of Kuke Ghanzi; no herbarium records for this species. Known only from a few individuals. There are varying reports that the species in Botswana may possibly represent a new taxonomic entity. It is known mainly from Namibia where herbarium records exist for it.

Adenium oleifolium Stapf

Status: VU B1B2ce

Threats: Harvesting, collection

Sought after by collectors and used as a medicinal plant. Ointment made from the plant is used for snake and scorpion bites, and a root extract is used for tonics and treating fevers. Rare and definitely requires protection. Is also found in the San Kalahari and Namibia. It has a massive turnip-shaped tuber with a tuft of aerial succulent stems and leaves. Spectacular tubular pink flowers.

ASCLEPIADACEAE

Hoodia lugardi N.E.Br.

Status: VU A1de

Threats: Harvesting, collection

This species has been subsumed as *H. currorii*, but this name is not in use in Botswana. In Botswana, the distribution of this taxon is an east-west belt spanning 600 km. Found in the Kglagadi Game Reserve. Several localities have been lost due to diamond mining. This plant also has ethnomedicinal value, and has been the subject of intense bioprospecting for the commercial market. Several localities have been extirpated due to the activity of a snout beetle pest. Found in South Africa, Zimbabwe, and elsewhere.

Huernia levyi Oberm.

Status: VU D2

Found in Zimbabwe, Zambia and Namibia (from Mpilila Island in Caprivi). This species is restricted to the Zambezi River drainage area and is uncommon in Botswana. The species has a narrow distribution range and straddles the borders of the four countries in which it occurs. The species was collected in Botswana (Mpandamatenga), but recent surveys have not been able to relocate it there. The species grows at the base of Acacia; found in gravelly soil.

Orbea tapscottii (I.Verd.) L.C.Leach

Status: EN A1ac

Threats: Grazing, desiccation, urban expansion
Also known from South Africa. In Botswana, collected in Pitsane Pan, but a recent survey failed to find it there again; the area has been heavily overgrazed. Other known localities of this species (near Gaborone and Molepolole) have been decimated due to the impacts of donkeys and goats, as well as expanding urban centres. Often associated with *Acacia hebeclada* subsp. *chobiensis*.

Orbeopsis knobelii (E.Phillips) L.C.Leach

Caralluma kalaharica Nel

Status: VU D1D2

Threats: Harvesting

First described in Molepolole. This species is uncommon and difficult to locate in the wild. The subpopulations are very small and disjunct in Botswana. Found on Kalahari sands. Also known from South Africa, Namibia, and elsewhere. Although widespread, it is always rare. It is eaten by people and animals. Has whitish to greenish flowers with purple patches. The whole plant is eaten raw or roasted. Locally it is called 'dadaba'. It has a smoky flavour and is a good source of water.

EUPHORBIACEAE

Euphorbia venteri L.C.Leach ex R.Archer & S.Carter

Status: EN C2a

Endemism: Endemic?

Threats: Urban expansion

Only two subpopulations recorded in Botswana from a gypsum substrate. These subpopulations are extremely disjunct (one in the north, the other in the south) and occur close to the border of eastern Botswana. The possibility exists that this species occurs in Zimbabwe (Plumtree) but this cannot be established without field work and taxonomic validation.

LYTHRACEAE

Nesaea minima Immelman

Status: VU D2

Endemism: Endemic

Known only from the moist grassy area of the Zwezwe Flats floodplain in Botswana.

ORCHIDACEAE

Ansellia africana Lindl.

Status: VU A1ad

Threats: Collection

This is the only epiphytic orchid in Botswana. All orchids are rare in Botswana and therefore, are usually collector's items amongst ecotourists. Frequently observed in cultivation. Wide distribution throughout Africa, but certainly threatened in Botswana. Rumoured to have aphrodisiac properties.

Eulophia angolensis (Rchb.f.) Summerh.

Status: VU A1ad

Threats: Collection

Large, showy orchid that grows in peaty ground in perennial and seasonal swamp. In possible danger due to collectors. Flowers from late October to December. Widespread in Angola, Zambia, Tanzania, Uganda and so forth.

Eulophia latilabris Summerh.

Status: VU A1ad

Threats: Collection

Large, showy orchid that grows in peaty ground in perennial and seasonal swamps. In danger due to collectors. Flowers from late October to December. Widespread in West Tropical Africa.

PORTULACACEAE

Anacampseros rhodesiaca N.E.Br.

Status: VU A1ad

Threats: Harvesting

Uncommon in Botswana as this species is at the end of its western distribution range. It is found close to the border near Francistown, and then extends easterly into Zimbabwe. Has a cryptic, rare habitat in Botswana; known from accessible crevices in bare rocky outcrops. It has also been collected in Tantabane (Tati). It has short branches covered with tiny scale-like leaves arising from the tuber. The genus *Anacampseros* has been split into three genera, and the genus *Avonia* is the relevant name for this taxon. However, this name is not in use in Botswana. In Zimbabwe, it is known as 'quilika' or 'tirika'. Prohibitions were introduced to prevent the use of this species for beer-making.

SAPINDACEAE

Erythrophysa transvaalensis I.Verd.

Status: VU D1D2

The first and only record for Botswana was collected in Shoshong in 1993. Known from the former western Transvaal (South Africa) where it is considered rare. Also known from Zimbabwe (possibly Matopos). The habitat of this species is rocky wooded hills, of which there are few in Botswana.



Hoodia sp. from the Kalahari sands of southern Botswana.
(Photo: NBI)

LOWER RISK

ACANTHACEAE

Barleria matopensis S.Moore

Status: LR-lc

No herbarium record of it being collected in Botswana, and also not in PRECIS. However, observed in the wild in Botswana. The distribution of this species in Botswana represents a small proportion of the global population. Known mainly from an area between Francistown and Ramokgwebana. Probably first collected in Matopos in Zimbabwe. Also known from the former Transvaal (South Africa).

Blepharis bainesii S.Moore ex C.B.Clarke

Status: LR-lc

Known from gypsum substrate in southeastern Botswana. Reported to have been observed several times in the vicinity of Matloutsi(e). Also known from southwestern Zimbabwe. However, not found in the former Transvaal area of South Africa. Possibly no herbarium specimens for Botswana. Limited global distribution.

CAPPARACEAE

Boscia foetida Schinz subsp. *minima* Toelken

Status: LR-nt

Threats: Grazing

The varietal status of this species represents plants shorter than 30 cm that are cushion-like. It is suspected that this dwarf form could be a growth form as a result of overgrazing. It may be rare, but it is certainly not threatened in Botswana. It is a shrub found on limestone outcrops, often near pans or on clay soils. Also found in South Africa (Northern Cape and former Transvaal). Apparently not recorded in Namibia.

CYPERACEAE

Pycreus okavangensis Podlech

Status: LR-lc

Nondescript, small plant. Widespread in northwest Botswana occurring throughout the lower delta, on the Chobe River and near a pan in the Kalahari. Also recorded in Namibia and possibly Angola and Zambia. The species has a wide distribution range.

EUPHORBIACEAE

Jatropha botswanica Radcl.-Sm.

Status: LR-lc

Endemism: Endemic

According to PRECIS, known only from Botswana. This species is fairly well protected since it occurs on black clay which is unarable and generally avoided by developments or human settlements. Currently known only from two localities, and this is probably due to collecting efforts.

FABACEAE

Acacia hebeclada DC subsp. *chobiensis* (O.B.Mill.) A.Schreib.

Status: LR-nt

Multi-stemmed tree-shrub. Found in riverbanks or sandbanks close to the northern border of Botswana but only for a limited distance downstream. The species is safe where it occurs, but its numbers and the size of its habitats are exceedingly small when compared to other plants from Botswana. It occupies a niche on an unstable landform (riverbanks/sandbanks). It is very sensitive to unnatural water level fluctuations. Found in Angola, Namibia and Zambia.

PEDALIACEAE

Harpagophytum procumbens (Burch.) DC. ex Meisn.

Status: LR-nt

No subspecies or varieties of this species is in use in Botswana. High-value export product for its medicinal properties. More valued than *H. zeyheri* since the active ingredient is more concentrated. Could become threatened due to reckless harvesting which is already reported to be taking place (the main tuber is removed rather than the side tubers). However, high levels of recruitment. Found mainly on the Kalahari sands of western Botswana.

Harpagophytum zeyheri Decne.

Status: LR-nt

No subspecies or varieties of this species is in use in Botswana. High-value export product for its medicinal properties. Far more accessible than *H. procumbens* since it is fairly common along the roadsides of eastern Botswana. High levels of recruitment.



Acacia hebeclada subsp. *chobiensis* in habitat in the Okavango Delta. (Photo: M.P. Setshogo)

DATA DEFICIENT

AIZOACEAE

Nananthus aloides (Haw.) Schwantes

Status: DD

Endemism: Endemic?

Known from border area of the Nossob River. The herbarium descriptions of the distribution of this species are unclear, and therefore it cannot be confirmed if the species also occurs in Namibia and South Africa.

Nananthus margaritiferus L.Bolus

Status: DD

No herbarium records exist for this species in Botswana. Also known from Namibia where it is legally protected.

ASCLEPIADACEAE

Ceropegia floribunda N.E.Br.

Status: DD

Endemism: Endemic?

According to PRECIS, endemic to Botswana. The type locality is Khwebe Hills. Suspected to also occur in Namibia but this has not been confirmed. May possibly occur in South Africa, but again, this cannot be confirmed. Taxonomically, this species is poorly known.

ASTERACEAE

Arctotis rogersii S.Moore

Status: DD

Could be endemic to Botswana, but may be a synonym or may occur further north. Reported that this may be a garden hybrid which occurs in the Cape (South Africa) but this cannot be confirmed. The taxonomic status of this species is uncertain.

Arctotis serpens S.Moore

Status: DD

Could be endemic to Botswana, but may be a synonym or may occur further north. Reported that this may be a garden hybrid which occurs in the Cape (South Africa) but this cannot be confirmed. The taxonomic status of this species is uncertain.

Erlangea remifolia Wild & G.V.Pope

Status: DD

Endemism: Endemic?

According to PRECIS, endemic to Botswana. Based on the number of herbarium collections, is reported to be common. However, this could well be an artefact since the collections could perhaps have been mistakenly identified as *E. misera*, a common species in Botswana.

Rennera laxa (Bremek. & Oberm.) Kallersjo

Status: DD

Endemism: Endemic?

According to PRECIS, known only from Botswana.

CYPERACEAE

Eleocharis cubangensis H.E.Hess

Status: DD

Endemic to the Okavango River, and currently known only from Namibia and Botswana.

ERIOSPERMACEAE

Eriospermum linearifolium Baker

Status: DD

Endemism: Endemic

Could be endemic to Botswana, but may be a synonym or may occur further north. Recorded from the Okavango

and Chobe area. Not known from Namibia.

Eriospermum seineri Engl. & K.Krause

Status: DD

Endemism: Endemic

Not recorded in Namibia. Suspected to be endemic to Botswana, but may be a synonym or may occur further north.

FABACEAE

Acacia hebeclada DC. subsp. tristis A.Schreib.

Status: DD

Has down-turned pods, and a small proportion of the global population is distributed in Botswana. It is found in the northwestern corner of Botswana. Mostly, it is known from Namibia and a few plants extend into Botswana in the fossil river valleys. This area is extremely well-protected and inaccessible. This area has also been relatively unexplored by botanists.

ORCHIDACEAE

Habenaria pasmithii G.Will.

Status: DD

In Botswana, it is known only from the Okavango (type locality). Known from a second collection in Mwinilunga (Zambia). Apparently known only from these disjunct localities. Probably a case of being undercollected or misidentifications of other taxa found between these two localities (possibility of a uniform distribution?). In water meadows and slow-flowing water.

Zeuxine africana Rchb.f.

Status: DD

Extremely rare in southern Africa, but widespread across Africa. In Botswana, known only from the Moremi Nature Reserve, as well as other localities in the north of Botswana such as Xobega Lediba. Flowers in July to August.

POACEAE

Aristida wildii Melderis

Status: DD

Endemism: Endemic?

Could be endemic to Botswana, but may be a synonym or may occur further north (unlikely to occur in the Caprivi). Found in areas of Botswana that are generally rocky.

Panicum coloratum L.Mant. var. makarikariense Gooss.

Panicum laevifolium Hack. var. *contractum* Pilg.

Panicum coloratum L.Mant. var. *coloratum*

Status: DD

Endemism: Endemic

The variety is regarded by some as being taxonomically

invalid. Localities of this plant beyond Botswana are instances where the species was introduced. In Botswana, it is known from the north (Makarikari Pan) and the southeast (Gaborone). It is used as a pasture grass.

Panicum gilvum Launert

Status: DD

Also known from Namibia and South Africa. In Botswana, it is known from the north in seasonal water pans. Probably undercollected and widespread.

Panicum pilgerianum (Schweick.) Clayton

Psilochloa pilgeriana (Schweick.) Launert

Status: DD

In Botswana, it is known from the north (Samedupe Bridge) and the southeast (Content Farm). It is also found in Namibia, in seasonally flooded areas, growing in water. Altitude of about 1,050 m. Probably undercollected and widespread.

Sporobolus bechuanicus Gooss.

Status: DD

Endemism: Endemic

According to PRECIS, known from fewer than five collections and occurring only in Botswana. However, reported to be very common in pans of Makgadigadi and Lepepe. The main centre of distribution is central Botswana.

ROSACEAE

Grielim cuneifolium Schinz

Status: DD

The type is from Lydenburg in South Africa. The species does not occur in Namibia. It has a restricted global distribution.

SANTALACEAE

Thesium dissitum N.E.Br.

Status: DD

Endemism: Endemic?

According to PRECIS, known only from Botswana.

SCROPHULARIACEAE

Jamesbrittenia integerrima (Benth.) Hilliard

Sutera batlapina Hiern

Status: DD

Endemism: Endemic?

According to PRECIS, known only from Botswana.

Jamesbrittenia concinna (Hiern.) Hilliard

Sutera concinna Hiern

Status: DD

Endemism: Endemic?

According to PRECIS, known only from Botswana.



Sunset in an aquatic landscape at Chobe.
(Photo: NBI)