



# *Asparagus africanus* Lam.

# *Asparagus falcatus* L.

## ASPARAGACEAE

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### Synonyms

*Asparagus africanus* Lam.: *Protasparagus africanus* (Lam.) Oberm.

*Asparagus falcatus* L.: *Protasparagus falcatus* (L.) Oberm.

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### Local Names

*Asparagus africanus*: **Gonja**: Chichilazyuka, **Maasai**: Embare Baba, **Hehe**: Kapalang'anga, **Taita**: Lwafumbo, **Giriama**: Murikano (Gachati 1989; Kokwaro 2009), **English**: Asparagus

*Asparagus falcatus*: **Kikuyu**: Rurura, **Sukuma**: MOUNGWI, **Shambaa**, Mungwe, **Digo**: Mwinka Ngulu (Gachati 1989; Kokwaro 2009)

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## Botany and Ecology

*Asparagus africanus* Lam.: Erect or scandent shrub, 0.5–3(5) m high. Stems many, pubescent or glabrous, smooth, green with spreading branches and branchlets. Spines straight or reflexed, sharp, 5–10 mm long. Cladodes 3–12 per fascicle, filiform, slightly curved, apiculate, unequally long, 5–15(20) mm long. Flowers 2–8 in each cladode fascicle, pedicels 5–10 mm long, articulated in lower half. Tepals narrowly obovate, 2.5–4 mm long, whitish. Stamens with small yellow anthers. Ovary with 4 ovules per locule, obovoid, style and stigmas very short. Berry 5–6 mm in diameter, orange to red. A common component in the undergrowth of Afromontane forests (Bussmann 2002) (Fig. 1).

*Asparagus falcatus* L.: Climbing shrub to 4 m or more. Branches glabrous. Stems smooth, terete to angled, usually pale. Spines 1–17 mm long, recurved, also on terminal branches. Cladodes fasciculate, 3–6 together, straight or falcate, smooth, with a distinct midvein, (15)25–120 × 2–5 mm. Racemes simple, 1–3, axillary, 15–55 mm long, present on main stems and branches, bracts ovate, acuminate, membranous, pedicels 3–7 mm long, articulated below middle or above. Tepals white, broadly elliptic to obovate, 3–3.5 mm long. Stamens with yellow anthers. Ovary with ±6 ovules in each locule, style short, about 0.5 mm long including stigma. Berry globose or solitary or 2-lobed, 7–10 mm in diameter, red, 1–2 seeded.

**Fig. 1** *Asparagus africanus* (Asparagaceae), Mt. Kenya National Park, Kenya. (Photo R:W. Bussmann)



**Fig. 2** *Asparagus falcatus* (Asparagaceae), Mt. Kenya National Park, Kenya. (Photo R:W. Bussmann)



Widespread in the warmer parts of southern Africa, tropical East Africa to India and Sri Lanka. Coastal forest, sand dunes, miombo woodland, along forest margins, rivers and streams, and among rocky outcrops, 0–1800 m. (Demissew 2006). A common component in the undergrowth of Afromontane forests (Bussmann 2002) (Figs. 2, 3, and 4).

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## Local Medicinal Uses

*Asparagus africanus*: Roots chewed as remedy for sore throat and cough. The root infusion is used to treat gonorrhea and other venereal diseases. Leaves are applied to wounds, and a leaf decoction is used to cure bubonic plague (Taita). The root infusion is used to ease childbirth. A decoction of the whole plant is drunk for mental problems (Kokwaro 2009). Juice is put on pimples (Bussmann et al. 2011; Lulekal et al. 2008). Used to treat diarrhea and involuntary weight-loss (Teklehaymanot et al. 2007), as well as skin lesions (Teklehaymanot 2009).



**Fig. 3** *Asparagus falcatus* (Asparagaceae), Bale Moutains National Park, Odo-Bulu, Ethiopia. (Photo R:W. Bussmann)

**Fig. 4** *Asparagus setaceus* (Asparagaceae), Bale Moutains National Park, Odo-Bulu, Ethiopia. (Photo R:W. Bussmann)



***Asparagus falcatus***: Root tubers used to treat gonorrhoea and to cure hernias in children. Also drunk as anthelmintic (Kokwaro 2009). Juice is put on pimples (Bussmann et al. 2011).

***Asparagus setaceus*** juice is used to treat herpes (Giday et al. 2009). The leaves are chewed for cough (Njoroge and Bussmann 2006), and the juice is applied to boils (Njoroge and Bussmann 2007). Used also for back pain in women, postpartum pain, and to treat sexually transmitted diseases (Njoroge and Bussmann 2009), as well as abscesses, diarrhea, toothache, wounds, and sores. Used to treat urinary problems in Ethiopia (Wondimu et al. 2007), plant powder for dermal issues (Yineger et al. 2008).

***Asparagus aethiopicus*** is used as anti-hypertensive (Desta 1995).

***Asparagus racemosus*** has medicinal applications in Ethiopia (Bekalo et al. 2009). Used as galactagogue (Kunwar et al. 2018). Asparagus root is tonic, aphrodisiac, diuretic, carminative, appetizer, and antispasmodic. It is useful in mental disorders, dyspepsia, and diarrhea. Tender shoots are tonic and useful in dysentery and rheumatism. Also used in tuberculosis, measles, diarrhea, epilepsy, and liver problems and considered as a galactagogue, aphrodisiac, diuretic, antispasmodic, and nerve tonic. It is also considered to prevent ageing, impart immunity, improve mental functions, and add vigor and vitality to the body. Root extract increases mammary gland in postpartum period acting as a galactagogue. Dysmenorrhoea and premenstrual syndrome were found to be symptom free after usage of root extract. The plant extract is cardioprotective, antitumor, antifungal, anti-ulcer, immunostimulatory, and diuretic. The crude saponins from the shoots are useful in dyspepsia, and extracts of plant rhizomes reduce blood sugar levels (Kunwar and Bussmann 2009; Kunwar et al. 2009a, 2013; Raj et al. 2018).

The roots of all *Asparagus* species used as diuretic (Fayvush et al. 2017). ***Asparagus adscendens*** also serves as galactagogue (Singh et al. 2017). ***Asparagus filicinus*** is used for diabetes and diarrhea (Bhat et al. 2013). ***Asparagus simulans*** is used in Madagascar to treat epilepsy and stomach pain (Razafindraibe et al. 2013).

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## Local Food Uses

***Asparagus africanus/Asparagus falcatus***: The large root stores lots of water that can be collected (Bussmann et al. 2006).

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## Local Handicraft and Other Uses

***Asparagus africanus/Asparagus falcatus***: Eaten by goats and cattle and threaded for calabashes (Bussmann 2006; Bussmann et al. 2011; Luizza et al. 2013). ***Asparagus africanus***: Used to wash away the spirit of a person who died (Bussmann et al. 2006). Used to make brooms (Bussmann et al. 2011). Also used to treat horses (Giday et al. 2003). The root extract is used as insect repellent (Giday et al. 2007), and to treat rabies (Yineger and Yewhalaw 2007). ***Asparagus racemosus*** roots used for fermentation of local beer (Kunwar et al. 2009b), and ethnoveterinary purposes (Reang et al. 2016).

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