



Dioscorea dodecaneura Vell.
Dioscorea dumetorum (Kunth) Pax
Dioscorea minutiflora Engl.

DIOSCOREACEAE

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Synonyms

***Dioscorea dodecaneura* Vell.:** *Dioscorea bangii* R. Knuth; *Dioscorea bulbifera* L.; *Dioscorea colocasiifolia* Pax; *Dioscorea discolor* R. Knuth; *Dioscorea dodecandra* Steud.; *Dioscorea dodecaneura* var. *maronensis* Uline ex R. Knuth; *Dioscorea hebantha* Mart. ex Griseb.; *Dioscorea huallagensis* R. Knuth; *Dioscorea illustrata* W. Bull.; *Dioscorea pilosiuscula* Bertero ex Spreng.; *Dioscorea racemosa* Rusby; *Dioscorea septemnervis* Vell.; *Dioscorea sororia* Kunth; *Dioscorea vittata* W. Bull. ex Baker

***Dioscorea dumetorum* (Kunth) Pax:** *Dioscorea buchholziana* Engl.; *Dioscorea triphylla* L.; *Dioscorea triphylla* var. *dumetorum* R. Knuth; *Helmia dumetorum* Kunth

***Dioscorea minutiflora* Engl.:** *Dioscorea acarophyta* De Wild.; *Dioscorea armata* De Wild.; *Dioscorea brevispicata* De Wild.; *Dioscorea cayenensis* Jum.; *Dioscorea demeusei* De Wild. & T. Durand.; *Dioscorea ealaensis* De Wild.; *Dioscorea ekolo* De Wild.; *Dioscorea engbo* De Wild.; *Dioscorea grandebulbosa* R. Knuth; *Dioscorea grandibulbosa* R. Knuth; *Dioscorea hystrix* R. Knuth; *Dioscorea lilea*

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De Wild.; *Dioscorea litoie* De Wild.; *Dioscorea multiflora* Mart.; *Dioscorea praehensilis* var. *minutiflora* Baker P.P.; *Dioscorea pynaertioides* De Wild.

Local Names

Dioscorea dodecaneura: **Luhya**: Litugu (Kokwaro 2009).

Dioscorea dumetorum: **Giriama**: Mariga; **Sukuma**: Maringa, Ndiga (Kokwaro 2009).

Dioscorea minutiflora: **Kikuyu**: Gikwa (Gachati 1989; Kokwaro 2009).

Botany and Ecology

Dioscorea dodecaneura **Vell.**: Inflorescence, especially the calyx tube, scurfy tomentose, gray. Stems slender, strongly sulcate, petioles 2–5 cm long, ribbed, leaves 7–15 cm long and broad, ovate-cordate, with broad, shallow sinus abruptly acute, thin, 9 ribbed, with ribs prominent underneath. Racemes short-peduncled, 10–20 cm long, slender, costate, loosely flowered. Pedicels short, ovary 5–7 mm long, 2–3 mm wide, oblong, obtusely triangular, downy. Styles nearly equaling perianth, shortly recurved, thick, bifid.

Dioscorea dumetorum (**Kunth.**) **Pax**: Tuber replaced annually, much divided with short or cylindric round-ended root-bearing lobes up to 2.5 cm in diameter, spreading or descending to 30 cm. Twining stems up to 10 m long, pubescent and beset sparsely or rather densely with prickles. Leaves alternate, 3-foliolate, petiole up to 20 cm long, pubescent, usually with a few scattered prickles, leaflets with petiole up to 10 mm long, adpressed pubescent, glabrescent above, discolorous and lanate, rarely sparsely hirsute beneath, median leaflet obovoid, acutely acuminate, cuneate or rounded at the base, conspicuously 3-nerved from just above the base. Male inflorescence paniculate, the ultimate branches spreading in all directions forming dense sessile cylindric spikelets up to 15 mm long, sessile or on peduncles up to 5 mm long, bracts broadly ovate, adpressed to the perianth and partly concealing it, densely pubescent, perianth subglobose, glabrous, with the 3 inner segments 1 mm long and the 3 outer considerably smaller and thinner. Stamens 6. Female inflorescence pendulous, spicate, 5–10 cm long, with the flowers close together at first, the internodes elongating greatly in age, flowers directed downwards, perianth depressed subglobose, 2 mm in diameter, pubescent, lobes subequal. Ovary 7 mm long, densely pubescent. Male inflorescence paniculate, the ultimate branches spreading in all directions forming dense sessile cylindric spikelets up to 15 mm long, sessile or on peduncles up to 5 mm long, bracts broadly ovate, adpressed to the perianth and partly concealing it, densely pubescent, perianth subglobose, glabrous, with the 3 inner segments 1 mm long and the 3 outer considerably smaller and thinner. Stamens 6. Female inflorescence pendulous, spicate, 5–10 cm long, with the flowers close together at first, the internodes elongating greatly in age, flowers directed downwards, perianth depressed subglobose, 2 mm in

diameter, pubescent, lobes subequal. Ovary 7 mm long, densely pubescent. Capsule (3–)4(–5) cm long, rather sparsely pubescent. Seeds 2 cm long, with wing on the basal side only. Edges of lowland rainforest, dry evergreen forest, evergreen bushlands and on termite hills in *Brachystegia* woodland, persisting in plantations and in secondary thickets and grasslands, 0–1650 m (Milne-Redhead 1975).

***Dioscorea minutiflora* Engl.:** Rootstock perennial, in age consisting of several horizontally radiating woody arms with a shoot at the outside end, eventually dying back towards the center to form separate plants, each arm protecting several vertical fleshy tubers about 25 cm long. Twining stems prickly, up to 10 m high, glabrous. Leaves opposite or occasionally alternate, glabrous, petiole up to 10 cm long, blade broadly ovate, orbicular or the uppermost reniform, cordate or rounded at the base, shortly acuminate, the lower up to 12 cm long and 9 cm wide, the upper 5 cm long and 6 cm wide. Aerial tubers absent. Inflorescence glabrous. Rainforest, 1050–1750 m, in Senegal and Guinée east to Zaire and south to Gabon and Angola (Milne-Redhead 1975) (Figs. 1, 2, 3, 4, 5, 6, and 7).

Local Medicinal Uses

Dioscorea dodecaneura: Boiled tubers are given to children for measles (Kokwaro 2009).

Fig. 1 *Dioscorea* sp. (Dioscoreaceae), Marañon, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Fig. 2 *Dioscorea* sp. (Dioscoreaceae), Marañon, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Dioscorea dumentorum: Roots are dried and ground, and the powder is mixed with water to treat bilharzia. Tubers must be soaked at least overnight to remove toxins (Kokwaro 2009). ***Dioscorea quartiniana*** is used medicinally in Ethiopia (Lulekal et al. 2007, 2008).

Dioscorea belophylla species are used medicinally at a global scale, and new species have been described recently (Romero-Hernández et al. 2019). In **India**, ***Dioscorea bulbifera*** is used as an expectorant for asthma and bronchitis, to treat diarrhea, urinary discharge, leukoderma, and as febrifuge (Joshi et al. 2010), as well as to treat jaundice (Raj et al. 2018) and fever and boils (Singh et al. 2017). ***Dioscorea deltoidea*** is used as anthelmintic (Kunwar et al. 2009, 2010, 2013), for urogenital disorders, and cough (Malik et al. 2015). ***Dioscorea belophylla*** is used for pain relief and against pneumonia (Raj et al. 2018).

Dioscorea trifida: Fresh tuber is used to treat inflammations, renal disease, uterus disease and discharge, cysts, internal inflammation, cancer of the uterus, inflammation of the ovaries, vaginal discharge, and inflammation of the kidneys (Bussmann and Sharon 2006, 2015a, b; Paniagua Zambrana et al. 2020). The species has antibacterial properties (Bussmann et al. 2010). ***Dioscorea belophylla*** is a remedy for body and stomach pain and pneumonia (Raj et al. 2018).

Fig. 3 *Dioscorea* sp. (Dioscoreaceae), Marañon, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)

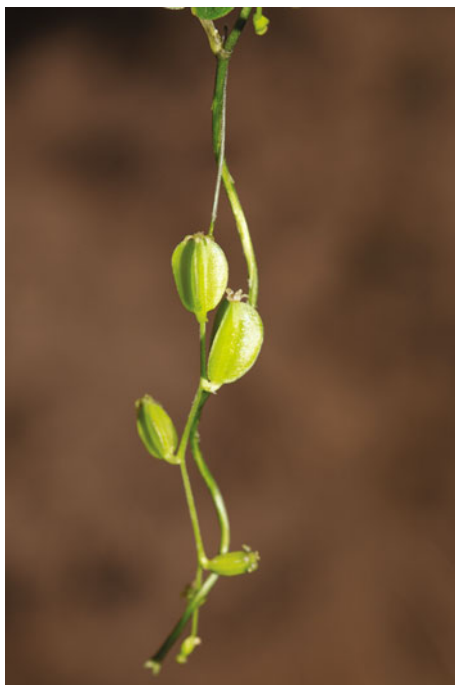


Fig. 4 *Dioscorea coriacea* (Dioscoreaceae), Marañon, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Fig. 5 *Dioscorea syringifolia* (Dioscoreaceae), Marañon, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Fig. 6 *Dioscorea* sp. (Dioscoreaceae), Marañon, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Local Food Uses

Dioscorea praehensilis and other species are eaten as famine food (Balemie and Kebebew 2006; Giday et al. 2009). *Dioscorea soso* and *Dioscorea ovinala* are frequently eaten in Madagascar (Randrianarivony et al. 2016a, b). The same holds true for *Dioscorea fandra* and *Dioscorea sansibarensis*, after careful detoxification (Randrianarivony et al. 2016a, b). *Dioscorea belophylla* is eaten as appetizer (Raj et al. 2018).

Fig. 7 *Dioscorea* sp. (Dioscoreaceae), Marañon, Peru. (Photo R.W. Bussmann and N.Y. Paniagua-Zambrana)



Local Handicraft and Other Uses

A variety of *Dioscorea* species are eaten by cattle (Bussmann et al. 2011). *Dioscorea sansibarensis* is used as poison in Madagascar (Randrianarivony et al. 2016a, b), and, like *Dioscorea bulbifera*, sometimes used as fish poison (Neuwinger 2004).

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