

Burttia Bak. f. & Exell

by F.J. Breteler & J. Brouwer

History of the genus

Burttia with its only species *B. prunoides* was first described by Baker and Exell (1931) and named in honour of its collector, Mr. B.D. Burtt. The authors discussed the systematic position of the genus within the *Connaraceae* but were undecided. They looked to place it near *Ellipanthus*. This genus and also *Hemandraenia* both share with *Burttia* the unifoliolate leaves and the unilocular flowers, but unlike it have only 5 fertile stamens. In this respect the later described unifoliolate and unilocular *Vismianthus* seems more closely related as its species have ten fertile stamens like *Burttia*. However, the differences in fruit and seed characters between *Burttia* and *Vismianthus* are considerable. Therefore *Burttia*'s taxonomic position remains rather isolated.

Schellenberg (1938: 98) kept *Burttia* and *Vismianthus* separate because of the presence of bifurcate hairs and of dark resinous glands in the flowers and leaves of *Vismianthus*, whose fruit and seed were unknown to Schellenberg. *Burttia*, however, also has bifurcate hairs, which is demonstrated by Fig. 14 no. 8 in Schellenberg's revision!

Description of the genus

Burttia Baker and Exell, 1931: 249; Schellenberg, 1938: 96; Brenan and Greenway, 1949: 167; Hemsley, 1956: 5; Mendes, 1966: 620.

Type species: *B. prunoides* Bak.f. & Exell.

Shrub or small tree. *Leaves* unifoliolate, long-petioled. *Hairs* two-armed. *Inflorescence* racemose. *Flowers* heterodistylous. *Sepals* 5, imbricate in bud, persisting in fruit. *Petals* 5, free. *Stamens* 10, shortly connate at base. *Carpel* solitary; ovary hairy, ovules anatropous; stigma (sub)capitate, papillose. *Fruit* a pubescent, 1-seeded follicle, dehiscent by ventral suture. Sarcotesta raphal, all along one side of seed, partly free, spreading laterally, slightly lobate. Cotyledons long and narrow, embedded in copious endosperm.

Distribution: Tanzania, Zambia, Mozambique.

***Burttia prunoides* Bak.f. & Exell**

Fig. 74, 75

B. prunoides Baker and Exell, 1931: 249; Schellenberg, 1938: 97; Brenan and Greenway, 1949: 167; Hemsley, 1956: 5; Mendes, 1966: 620.

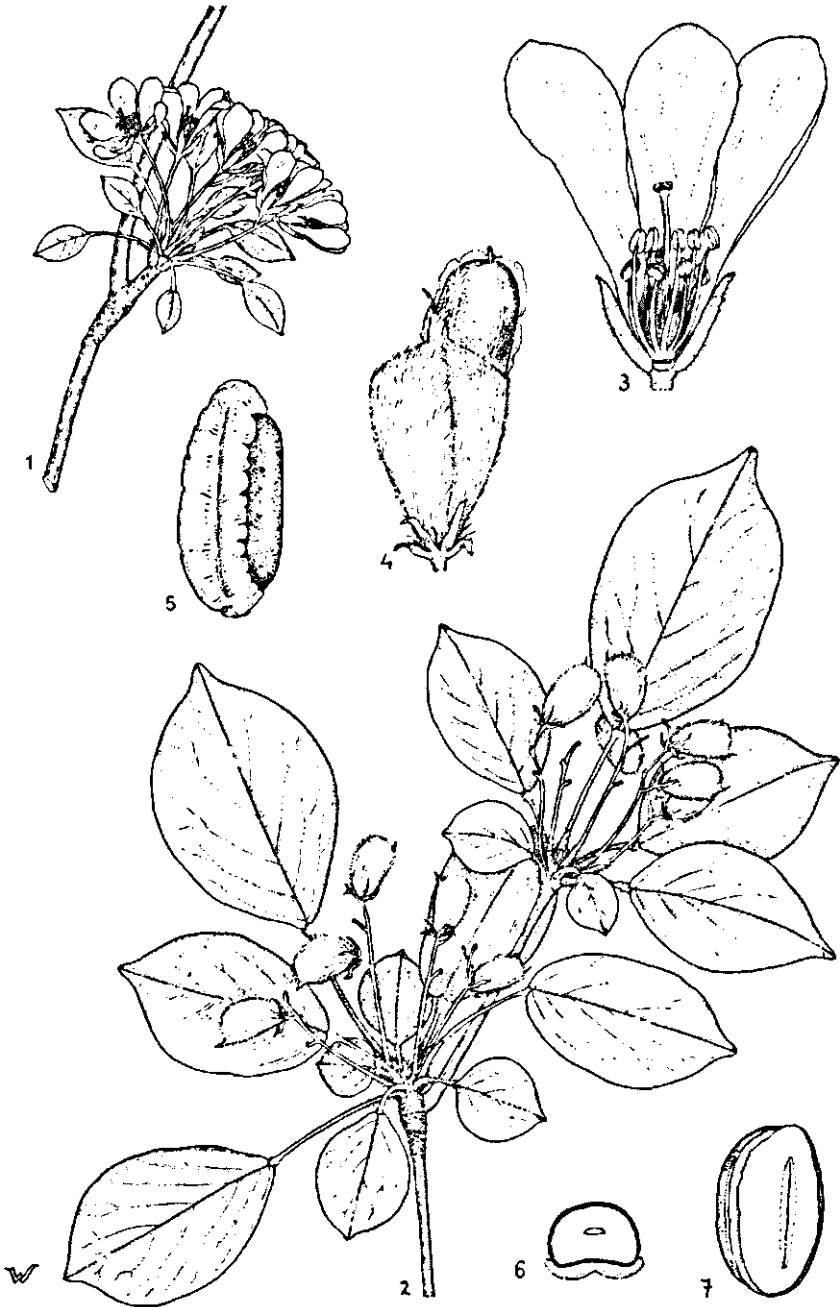


Fig. 74. *Burtia prunoides*: 1. flowering branchlet, 2/3 \times ; 2. fruiting branchlet, 2/3 \times ; 3. flower, sepals and petals partly removed, 3 \times ; 4. dehiscent fruit with seed, 2 \times ; 5. seed with sarcotesta, 2 \times ; 6. transverse section of seed, 2 \times ; 7. section of seed lengthwise, sarcotesta removed, 2 \times . (1. Bullock 1340; 2. Burti 5148; 3. Newman 59; 4-7. Greenway & Pohlhill 11446).

Type: Tanzania, Singida District, Itigi-Saranda-Kasikasi area, *Burt* 532 (holo: BM; iso: EA).

Shrub or small tree, up to 4(8) m, branching subradially. *Branches* pale grey, smooth to fibrous, with many lenticels; slash very dull orange yellow. *Branchlets* greyish brown, pubescent when young, hairs ferruginous with unequal arms, becoming glabrous. *Leaves* crowded at end of shoots, sometimes also spread out along shoots. *Petiole* 1.5-4.5 cm long, very slender, channeled, densely ferruginously pubescent when young with unequally two-armed hairs especially at base of leaflet, glabrescent with age, articulate apically; blade herbaceous to thinly coriaceous, ovate-subcircular to elliptic-obovate, sometimes transversely elliptic, from 2.5 × 2.5 cm to 10.5 × 9 cm, apex acuminate to broadly acute, acumen to 0.3 cm, base rounded to retuse; densely ferruginously pubescent-pilose when young, especially beneath, becoming glabrous with age, longer persistent along main and secondary nerves beneath; secondary nerves 6-8 pairs, generally quite prominent both sides. *Inflorescence* simple, 1-3 flowered raceme; bracts elliptic-oblong to lanceolate, rounded-apiculate, keeled, up to 5 × 1-2.5 mm, densely pubescent, (partly) caducous; peduncle 1.5-5 cm long, densely tomentose to pilose, glabrescent; bracteoles filiform, 2-3.5 × 0.2-0.3 mm, caducous. *Flowers* (4)5-merous, 9-18 mm long; pedicel 0.5-2 mm long, articulate, ferruginously villose-sericeous. *Sepals* (sub)equal, elliptic-oblong to lanceolate, 3.5-7 × 1.5-3 mm, very shortly connate, apex obtuse to truncate, ferruginously villose-sericeous, especially at the apex and along centre, imbricate. *Petals* white, sometimes pink (*Richards* 2259), (sub)equal, spatulate, 6.5-17 × 3-8 mm, free, apex obtuse, base narrowly cuneate, glabrous. *Stamens* 10, the five episepalous ones 4-6 mm long in long-styled flowers and 6.5-9 mm long in short-styled ones, the five epipetalous stamens 2.5-5 mm and 6.5-7.5 mm long respectively; filaments filiform, somewhat flattened, glabrous (rarely sparsely sericeous), shortly (0.3-1 mm) connate at base, sometimes so in pairs to 3.5 mm from base; anthers ovoid, 0.5-1 mm long, dorsiverticillate. *Pistil* 6-8 mm in long-styled flowers, 3-4.5 mm in short-styled flowers; style filiform, glabrous; stigma (sub)capitate, more or less bilobed, 0.4-0.7 mm diameter, papillose; ovary sessile 1-2 mm long, obliquely ovoid-lenticular, densely sericeous, hairs with two unequal arms; ovules 2, only 1 developing, attached above middle of ventral suture, anatropous. *Fruit* a flattened follicle with persistent calyx (and stamens), 14 × 6 - 18 × 8 mm, hardly stalked with up to 3 mm long rostrum, densely brown-pilose-pubescent when young, becoming greyer with age, dehiscing along ventral suture. *Seed* solitary, attached near top of ventral suture, narrowly ovoid, 11 × 3 - 18 × 8 mm, black and shining with large fleshy, verrucose, slightly lobate crimson raphal sarcotesta, covering whole length of seed on one side.

Distribution: Central and western Tanzania, northern Zambia, Mozambique.

Ecology: Thickets and woodlands on sandier soils, often among rocks, at altitudes of 800 to 1500 m. Found in association with *Cassipourea*, *Grewia holstii*,

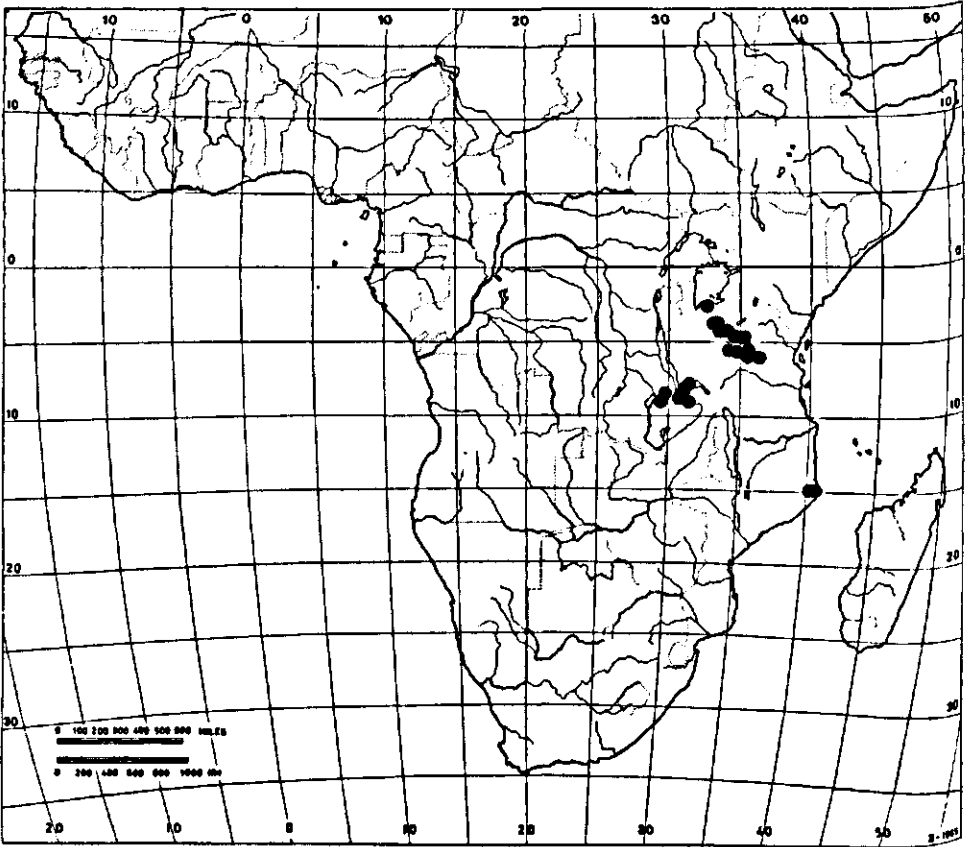


Fig. 75. Distribution of *Burtia prunoides*

Acacia, *Baphia*, *Landolphia*, *Combretum*, *Brachystegia*, *Isoberlinia*, *Commiphora* and *Euphorbia*.

Specimens examined:

Tanzania: Manyoni District, Itigi-Saranda-Kasikasi (fl. Dec.) *Burtt* 532 (BM, type); Kondoa District, Thlawa (fl. Feb.) *Burtt* 846 (K); Dodoma District, Kondoa Rd (fr. March) *Burtt* 1800 (BM, BR, EA, G, K); Kondoa District, Sambala (fr. March) *Burtt* 1978 (BM, EA, K); Shinyanga District, Tinde Hills, *Burtt* 2383 (BM, EA, K); Dodoma District (fr. March) *Burtt* 3035 (EA); Manyoni District, between Mkweze & Kunguya (fl. Dec.) *Burtt* 3521 (BM, EA, K); Manyoni District, Hika (fl. Dec.) *Burtt* 3522 (BM, K); sin.loc., *Burtt* 3818 (K); Manyoni District, Kazikazi, *Burtt* 4439 (BM); 4440 (BM); (fl. Dec.) *Burtt* 4939 (BM, BR); (fl. Dec.) *Burtt* 4961 (BM, BR); Shinyanga (fr. Feb.) *Burtt* 5148 (BM, BR, EA, K); 5149 (BM, BR, EA, K); Manyoni (fl. Dec.) *Burtt* 5402 (BM, BR, K); Shinyanga District, Tinde Hills, *Burtt* 6409 (BM, BR, K, P); Nindo F.R. (fl. Oct.) *Carmichael* 845 (EA, K); Manyoni District, E. of Itigi Station (fr. April) *Greenway & Polhill* 11446 (K); Singida District, *Jiwa* s.n. (EA); Tabora Region, *Lawton* 2142 (K); (fr. Nov.) *Lawton* 2153 (K); Shinyanga, *Lindeman* 539 (BM, EA, K); Singida (fl. Dec.) *Michelmores* 832 (EA, K); Gongwa, *Newman* 18 (EA); Tumbakose (fl. Dec.) *Newman* 59 (BR, EA); Dodoma Mt. (fr. Dec.) *Peter* 33087 (B);

Uyansi (fr. Jan.) *Peter* 34193 (B); W of Dodoma, *Peter* 45686 (B); (fr. Dec.) *Peter* 45719 (B, K); Sandawe (fr. Feb.) *Phillips in Burt* 1480 (BM); Mangoloma (fr. Feb.) *Phillips in Burt* 1801 (EA, K); Chenene (fr. Jan.) *Polhill & Paulo* 1249 (B, BR, K, P); Kongwa, *Regional Plant Pathologist s.n.* (EA); Sumbawanga (fr. Dec.) *Richards* 7398 (K); Kasanga, *Richards* 10151 (K); Chenene, *Ruffo* 1152 (K); Chaya (fl. Nov.) *Semsei* 3435 (K); Singida District (fr. Dec.) *Shabani* 1213 (K); Kikuye near Dodoma (fr. Jan.) *Wigg* 200 (EA).

Zambia: Kasanga (fr. Dec.) *Bredo* 6407 (BR); Bulaya-Mwewe District (fl. Oct.) *Bullock* 1340 (BR, K, SRGH); Abercorn, *Burt* 5996 (BM, BR, K, P); Lake Tanganyika between Kalambo R. and Mpulungu, *Burt* 5997 (BM, BR, EA, K); Great Kalambo, *Burt* 5998 (BM, BR, K); Museshia, *Fanshawe* 4870 (K, WAG); (fl. Oct.) *Fanshawe* 4880 (K); near Mpulungu (fl.) *Richards* 2259 (BR, K, SRGH); Mwenda, *Richards* 9585 (K); Abercorn District (fl. Nov.) *White* 3693 (BM, BR, K).

Mozambique: Nampula, Monapo (fr. Feb.) *de Koning c.s.* 9603 (WAG); Nampula, Mossuril (fr. Feb.) *de Koning c.s.* 9746 (WAG).

Notes: The young leaves are salmon pink to crimson and copper beach or silvery and brown veined or pale green and covered with soft, short white hairs, the mature leaves are dark green above, paler below, brilliant in autumn. Flowers and leaves appear with the first rains (Oct-Dec.), the fruits are mature about March.

The 'aril' is sweet and edible, the seeds are used for poisoning animals (*Burt* 1978). The wood is reported to be of little value (Brenan & Greenway, 1949: 167; *Burt* 4439).

For observations on the pollen grains see under *Vismianthus*.

In literature (e.g. Hemsley, 1956: 5) heterostyly is mentioned for *B. prunoides*. The herbarium material examined showed all to be heterodistylous, having long- as well as short-styled flowers. A statement by Mendes (1966: 620) to the effect that the six known gatherings of flowers of *B. prunoides* in the area of the Flora Zambesiaca concerned either 'short-staminate' flowers or flowers with an 'intermediate stamen-style relationship', is to be doubted. Examination of the three gatherings mentioned explicitly by Mendes showed one to be long-styled and one to be short-styled, while *Bullock* 1340 (BR) is long-styled and *Bullock* 1340 (K) is short-styled. The measurements reported by Mendes (1966) himself (long-staminate i.e. short-styled: stamens up to 10 and 7 mm, pistil up to 5 mm; short-staminate i.e. long-styled: stamens up to 7 and 5 mm, pistil up to 9 mm) also lead to the conclusion that only short- and long-styled specimens are in play. The absolute length of the pistils of short-styled flowers as reported by Mendes, 5 mm, is however intermediate between the absolute lengths of the styles of the long- and short-stamened (short- and long-styled) flowers mentioned by Hemsley (1956) (up to 3 and up to 6 mm respectively; ovary up to 2 mm long); this may explain the confusion.

According to Baker and Exell (1931: 249), followed by Schellenberg (1938: 96), Hemsley (1956: 7) and Mendes (1966: 620), there are in *B. prunoides* sometimes either one or three ovules. This could not be confirmed after the examination of all the herbarium material available for this study.

The ovules in *B. prunoides* are not erect, as mentioned by Schellenberg (1938: 96) nor are they hemitropous, as might be deduced from the illustrations in Hemsley (1956: 6; also in Mendes 1966: 621).