

## 15. OCTOKNEMACEAE

par

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Trees or shrubs. Leaves alternate or subopposite, entire, simple, lacking stipules. Inflorescences in the form of spikes or panicles. Flowers generally 5-merous, seldom 4 or 6-merous, ♀ (?) or ♂ ♀; generally simple perianth, with parts fused at the base; valvate aestivation; stamens or staminodes opposite the perianth parts (or the petals); broad and short filaments; disk present; ovary inferior, fused with the receptacle, unilocular or 3(4)-locular almost to the top; ovules 3 (4), hanging; style short; stigma with 3 (4-5) spread out and irregularly lobed lobes. Drupes single-seeded; exocarp thin; mesocarp fleshy; endocarp sclerified; abundant endosperm.

Small family made up of 2 genera and 8 species, all African, rare, the majority Guinean.

A. Simple or composed spikes, generally axillary; drupes 1.5-3 cm long, endocarp emitting towards the interior 6-10 thin blades; young parts (branchlets, petioles, inflorescences) covered with a pubescence made up of stellate hairs; **1. Octotoknema**.

B. Panicles cauline; drupes 9-15 cm long; endocarp not emitting thin blades towards the interior; young parts (branchlets, petioles, inflorescences) covered with a pubescence made up of simple hairs, forked and stellate. **2. Okoubaka**.

### 1. OCTOKNEMA PIERRE

MILDBR. in ENGL. et PRANTL, *Nat. Pflanzenfam.*, ed. 2, XVIb, p. 42-45, f. 24-25 (1935).

Trees or shrubs dioecious by abortion; young parts covered by a pubescence made up of stellate hairs. Alternate leaves. Inflorescences generally axillary, ♂ in the form of fascicled spikes 1- or few-flowered, ♀ in the form of simple and few-flowered spikes. ♂ flowers with a simple perianth; lobes of the disk alternating with the parts of the perianth and surrounding the rudiment of an ovary. ♀ flowers with simple or double perianth, in this case, sepals in the form of small teeth inserted on the edge of the receptacle; staminodes deprived of anthers, alternating with the lobes of the disk; ovary 3 (4)-locular almost until the top, becoming unilocular by a tear of the partitions and provided in this case with a central column with 3 edges; 1 ovule per locule, unitegmic, anatropous, provided with a dorsal raphe. Drupes ellipsoidal to spherical, crowned by the persistent perianth; endocarp emitting towards the interior 6-10 thin blades. Longitudinally and deeply ruminant-lobed seeds; oil-starch-based endosperm.

Seven species very closely connected including only one represented in the Belgian Congo, specific to the riparian, easily flooded, marshy or edaphic alternatives of the primitive forests.

**Octoknema affinis** PIERRE ex VAN TIEGH., *Journ. de Bot.*, XIX, 3, p. 46 (1905). *Planch*, XXX.

*O. aruwimiensis* MILDBR., *Notizbl. Bot. Gart. Mus. Berlin*, XI, p. 661 (1932).

Low-branched tree, of approximately 20 m total height (sometimes a shrub of 2-6 m); trunk cylindrical, deprived of basal buttresses, being able to reach 50 cm of diam; dense summit; scaly rhytidome, gray beige or ashy gray; bark 3-8 mm thick, yellowish on fresh section, somewhat tender, nonfibrous; young parts (branchlets, petioles and inflorescences) densely covered with stellate hairs. Leaves with 1-2.5 cm length petiole; blade oblong, oblong-elliptic or oblong-obovate, rounded with a wedge-shaped base, blunt with caudate-acuminate apex, glabrous, 7-24 cm long and 3-10 cm broad, rather often yellow greenish and shining on the upper face; secondary nerves numbering 6-9 pairs, ascending, strongly prominent on the lower face. Inflorescences ♂ axillary, 2.5-9 cm overall length; 2-5 mm length pedicels; yellowish flowers or rose [rosâtres], of  $\pm$  5 mm of diam, furnished with many stellate hairs on the external face; petals reflexed, hairy on the internal face at the height of the anthers (simple hairs); inflected stamens then erect; rudiment of ovarian column, truncated, 3-lobed; abundant nectar. Inflorescences ♀ axillary, 0.5-2 cm overall length, the fruit-bearing ones reaching up to 2.5 cm; floral pedicels almost absent, thickening in the continuation and reaching 3-4 mm length under the fruit; greenish flowers, of 5-6 mm diam. and height, covered with many stellate hairs; sepals tiny ciliate. *Fruits* ellipsoidal or almost spherical, covered with stellate hairs, 1.5-1.7 mm high and 1.2-1.4 cm diam; exocarp a little grained,  $\pm$  shining, red orange; 2-3 mm thick mesocarp, with adherent pulp gilded with the endocarp. Epigeal germination; 8-10 cm length hypocotyle; tap rooted; not very abundant side roots. Foliaceous cotyledons, spread out, opposite, oval-elliptic, acute at the top, entire, glabrous, 5 cm long and 2.5-3 cm broad; 6-8 mm length petiole; 2 basally ascending secondary veins; young growth covered with stellate hairs.

**DISTRIBUTION:** Espèce forestière exclusivement guinéenne: Kasai (Sankuru); Forestier Central (Panga-Aruwimi : MILDBREAD 3275, Yangambi: LouIs 7959, 11112); Ubangi-Uele. - Gabon.

**HABITAT:** *O. affinis* is localized to river accesses in the equatorial forest solid mass and, in area of savanna, is strictly related to the forest galleries. It is a heliophyte, but it supports the shade well, flowering and bearing fruit under cover

**VERNACULAR NAMES:** Kulu (dial. lokundu); Inaolo-a-Losomba, Inaolo-a-Lusakani, Inaolo-a-Okwelekwele (dial. turumbu).

## 2. OKOUBAKA PELL. et NORMAND

Trees probably monoecious; young parts covered with a pubescence made up of simple, forked and stellate hairs. Alternate or subopposite leaves; petiole articulated at the base. Inflorescences hanging, laid out in long loose, solitary or few-flowered fasciculate panicles, being borne on old wood. Flowers apparently ♀, sessile, articulated on the axis; simple perianth; disk covering all the bottom of the flower and extending between stamens; ovary unilocular; ovules 3 (4), hanging at the top of a central placenta rising from the bottom of the ovarian cavity. Drupes ovoid, sessile; juicy, mesocarp a little fibrous; endocarp traversed by many longitudinal furrows. Ovoid seeds, unilaterally fused with the endocarp.

Only one species known, very rare, located in the Ivory Coast and the Gold Coast. In Belgian Congo, only a variety is represented.

**Okoubaka Aubrevillei** PELL. et NORMAND var. **glabrescentifolia** J. LÉONARD, Bull. Jard. Bot. État Brux., XVIII, p. 150 (1947)<sup>1</sup>.-Plate XXXI, and photo 11.

25-30 m total height arborescent tropophyte; trunk cylindrical, lacking basal buttresses, 16 m height and 75 cm diam; rhytidome green brownish, rough, furrowed not very deep longitudinal cracks, of 2-3 mm thickness, brownish white when cut; 5-6 mm thick bark, grating under the penknife, of coarse structure, made up of transverse section of a homogeneous mixture of whitish and orange punctuations; yellowish, slightly odorous sapwood; young angular branchlets, covered by a dense, brownish pubescence, made up of simple, forked and stellate hairs. *Leaves* with canaliculate petiole, of 1.3-2 cm length, covered by ramified hairs, becoming  $\pm$  glabrescent; blade oval, oval-oblong or oval-elliptic, with a wedge-shaped, rounded and slightly inequilateral base, acute or blunt at the top, recurved (retuse) on the edges, 9-18 cm long and 4.5-8 cm broad, green shining on the upper face, green glaucous on the lower face, glabrescent or glabrous even in the very young state except the primary vein, furnished on both sides of the blade with scattered quickly caducous hairs; primary rib prominent on the lower face; secondary nerves numbering 4-6 pairs, arch-ascending; very loose reticulation. *Inflorescences* reaching 20-40 cm in overall length and 6-10 cm in width; peduncle and axes green, furnished with a dense, brownish pubescence, composed of simple hairs, forked and stellate; bracts and bracteoles oval, hairy, 1-2 mm long and 1 mm wide. *Flowers* yellow green, turbinate, 5-6 mm length and 5 mm diam, covered on the external face with very few simple, forked or stellate hairs; perianth parts triangular, densely pubescent on the internal face, of 2-2.5 side mm, reflexed at the top at the time of the anthesis; stamens (fertile?) glabrous; filaments 1.5 mm broad and 0.3 mm wide; thecae oblong, small, inflected; disk densely pubescent; style insert, of 1 mm length, pubescent. *Drupes* glabrous, 15-16 cm long and 9-10 cm broad, slightly longitudinally ribbed; exocarp smooth, shining, apple green then of a beautiful yellow at complete maturity; mesocarp golden yellow, 1.5-2 cm thick; endocarp 5 mm thick. Seeds 7 cm long and 4.5 cm broad; slightly brownish white endosperm. Hypogean germination; tap rooting; rather many side roots; stem covered by an abundant whitish villosity, carrying at the base of many alternate foliaceous scales transforming itself little by little into normal leaves; leaves of the young oval seedlings, cordate [? cordulées] at the base, hairy especially along the veins of the lower face.

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<sup>1</sup>. *Okoubaka Aubrevillei* PELL. et NORMAND, Bull. Soc. Bot. France, XCI, p. 25 (1944) - XCIII, p. 139 (1946); NORMAND, Agron. Trop., 7-8, p. 371, t. 4 (1946).

DISTRIBUTION: Forestier Central (Yangambi : LOUIS 7532, LÉONARD 1159 et, avec doute, à Bambesa).

HABITAT: The single specimen, from which the herbarium samples derive, is localized to a firm ground forest with *Scorodophloeus Zenkeri* HARMS.

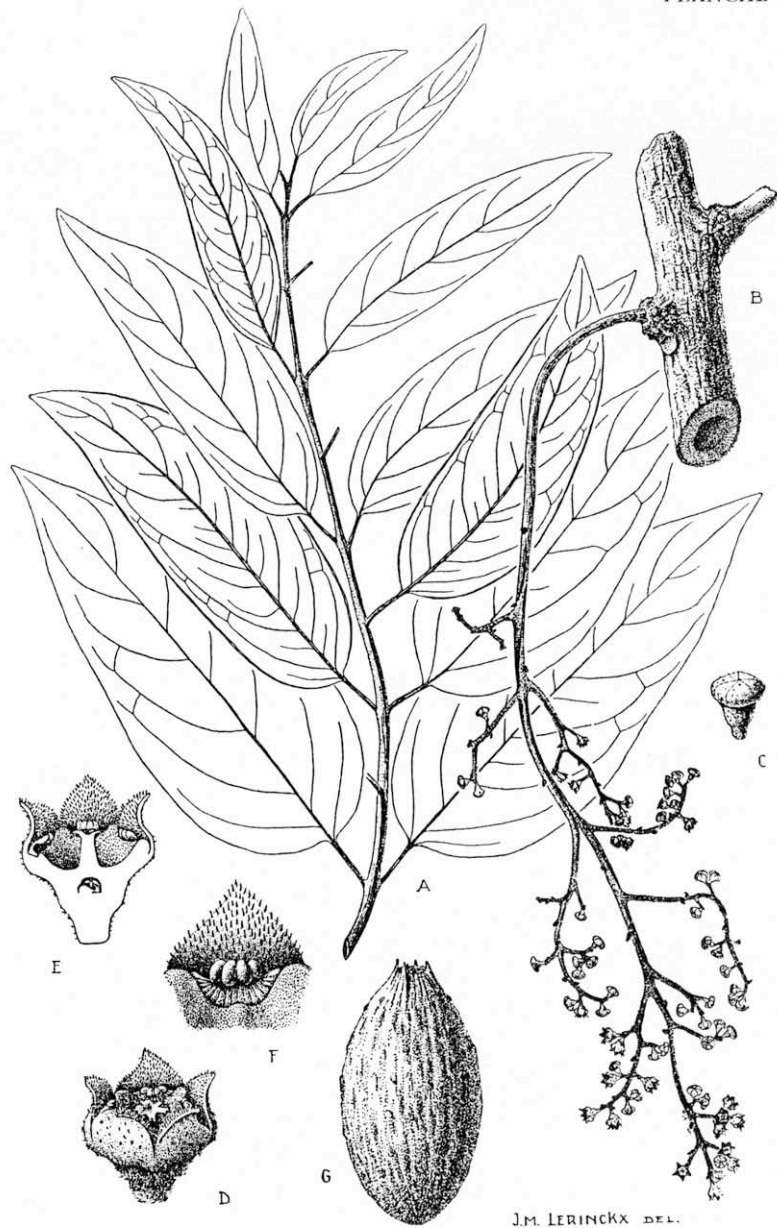
VERNACULAR NAMES: Etale (dial. turumbu).



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*Octotknema affinis* PIERRE ex VAN TIEGH.

*Legend of plate XXX. Octotknema affinis* PIERRE ex VAN TIEGH. A. ♂ branch (X 1/2). - B. ♀ branch (X 1/2). - C. ♂ bud (X 5). - D. ♂ flower open up (X 5). - E. ♂ flower, cut longitudinally (X 5). - F. ♀ bud (X 5). - G. ♀ flower, opened up (X 5). - H. ♀ flower, cut longitudinally (X 5). - J. Fruit (X 1). - K. seed (X 1). - L. Fruit, cut transversely (X 1). - according to LOUIS 7857, 7959, 11112, 13456 and LEBRUN 5708.



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**Okoubaka Aubrevillei** PELL. et NORMAND var. **glabrescentifolia** J. LÉONARD

*Legende of plate XXXI. Okoubaka Aubrevillei* PELL. et NORMAND var. **glabrescentifolia** J. LÉONARD A. branch extremity (X 1/2). - B. Inflorescence (X 1/2). - C. floral bud (X 2). - D. flower opened up (X 4). - E. flower, cut longitudinally (X 4). - F. stamen (X 8). - G. young endocarp (X 1/2). - according to LÉONARD 1159 and LOUIS 7532.



Information Service of the Belgian Congo. Photo LEBIED  
Photo 11. - **Okoubaka Aubrevillei**, PELL. et NORMAND var. **glabrescentifolia** J.  
LÉONARD. Cylindrical trunk. Yangambi, in *Scorodophloeus Zenkeri* terrestrial forest,  
HARMS, 1947.