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# *Sextonia*, a New Genus of Lauraceae from South America

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**ABSTRACT.** The genus *Sextonia* is described; it consists of two species, the rather widespread *S. rubra* and the new species *S. pubescens*, restricted to eastern Peru.

*Ocotea* is the largest genus of neotropical Lauraceae, including at least 300 species (van der Werff, 1991). It is not surprising that with such a large number of species the genus shows considerable morphological variation, is difficult to delimit, and is in much need of a modern revision. Oftentimes the genus has been used to accommodate species that could not be adequately placed in other, better defined genera. As information from other disciplines, most notably wood and bark anatomy (Richter, 1981), has become available, some of the anomalous species have been removed from *Ocotea* and recognized as distinct genera. Rohwer et al. (1991) created the genus *Chlorocardium* for two species previously placed in *Ocotea* and discussed some other problematical species. I propose to recognize one of those species, until now treated as *Ocotea rubra*, as belonging to a distinct genus and will describe a new species of this genus as well.

***Sextonia*** van der Werff, gen. nov. TYPE: *Sextonia rubra* (Mez) van der Werff. Figure 1.

Arbores magnae. Folia ad apices ramulorum aggregata. Inflorescentiae axillares, racemosae vel paniculatae. Tepala 6, inaequalia, 3 exteriora quam 3 interiora minora, erecta; stamina 9, 4-locellata, 6 exteriora locellis in arcu non profundo dispositis, 3 interiora locellis in 2 paribus superpositis; staminodia 3; receptaculum profundum. Fructus cupula insidens, ab ea  $\frac{1}{3}$  vel fere omnino oblecta.

Large trees, to 45 m tall. Twigs thick, corky, terete. Leaves alternate, clustered near the tips of the branches, pinnately veined, without domatia. Inflorescences axillary, racemose or paniculate, ultimate divisions of inflorescences frequently not strictly cymose, but racemose. Tepals erect, unequal, the outer three smaller than the inner three; stamens 9, 4-celled, the outer 6 with the cells in a shallow arc, the inner 3 with the cells placed in two pairs, the filaments short, as wide as the anthers, staminodia 3; receptacle deep. Fruit initially enclosed in the cupule, at maturity either  $\frac{2}{3}$  exerted or almost completely enclosed in the cupule.

The new genus *Sextonia* is readily recognized by having clustered leaves and flowers with unequal tepals, characters already mentioned by Rohwer et al. (1991). The differences in wood and bark anatomy between *Ocotea* and *Sextonia* (as *O. rubra*) were amply discussed by Richter (1981), and indeed the main reason that Rohwer et al. (1991) did not describe a new genus to accommodate *O. rubra* was their reluctance to describe another monotypic genus. In a genus as large as *Ocotea* it is not surprising to find individual species or groups of species that differ in one or more morphological characters from the rest of the species, and finding such differences is not a sufficiently strong argument for describing a new genus. However, when such morphological differences are supported by differences in wood and bark anatomy the argument for a new genus is stronger. Three reasons made me consider the generic status of *O. rubra* again. The first is the recent discovery of an undescribed species closely related to *O. rubra*, sharing with it the clustered leaves and flowers with unequal tepals, but differing in having pubescent flowers and racemose inflorescences. This new species has wood and bark anatomy similar to *O. rubra*. Describing this species in *Ocotea* would clearly be incorrect. The second argument is that during a study of the embryology of Lauraceae (Heo et al., in prep.) *Ocotea rubra* was found to differ clearly from the other four investigated species of *Ocotea* in having the mature embryo sac protruding from the nucellus, a character state otherwise only found in *Beilschmiedia*, *Caryodaphnopsis*, *Cryptocarya*, *Endiandra*, and *Potameia*, but lacking in genera considered closely related to *Ocotea*, such as *Aiouea*, *Aniba*, *Cinnamomum*, *Licaria*, *Mezilaurus*, and *Nectandra*. The third is that the inflorescences of the two species of *Sextonia* are different from those found in *Ocotea*. In *Ocotea* the flowers are arranged in cymes, with the lateral flowers of a cyme strictly opposite. In *Sextonia rubra*, however, the flowers are not arranged in cymes. Frequently the ultimate branching of the inflorescences appears racemose and flowers are not strictly opposite. The inflorescence types of Lauraceae and their importance for the suprageneric classification are discussed in detail by van



Figure 1. *Sextonia*. A-H, *S. pubescens* van der Werff; I-K, *S. rubra* (Mez) van der Werff. —A. Habit. —B. Inflorescence. —C. Flower. —D. Pistil. —E. One of the outer 6 stamens. —F. One of the inner 3 stamens. —G. Section through mature fruit. —H. Not fully mature fruit. —I. Mature fruit with cupule. —J. Flower. —K. Leaf.

der Werff and Richter (1996). Thus, the long known morphological differences between *Ocotea* and the proposed genus *Sextonia* are supported by differences in wood and bark anatomy, embryology, and inflorescence type. Therefore, the description of a new genus seems well justified.

**Etymology.** This genus is dedicated to the late A. J. G. H. Kostermans, an eminent specialist of Lauraceae. The translation of his name in English is sexton, upon which the name *Sextonia* is based.

*Sextonia* includes two species, which can be separated as follows:

1. Flowers glabrous or nearly so; petioles glabrous; cupule cupshaped, covering at maturity about  $\frac{1}{3}$  of the fruit . . . . . *S. rubra*
1. Flowers densely pubescent, the hairs  $\pm$  erect and covering the surface entirely; petioles pubescent; cupule almost completely enclosing the fruit, leaving only a small (5–8 mm) opening at the tip . . . . . *S. pubescens*

***Sextonia rubra*** (Mez) van der Werff, comb. nov.

Basionym: *Ocotea rubra* Mez, Jahrb. Koenigl. Bot. Gart. Berlin 5: 258. 1889. *Nectandra rubra* (Mez) C. K. Allen, Mem. New York Bot. Gard. 10: 120. 1964. TYPE: French Guyana, *Melinon s.n.* (holotype, P; isotypes, B, G, K).

*Sextonia rubra* is a fairly frequently collected species and is known from the Guyanas, Venezuela, and Amazonian Brazil from the Atlantic coast to Manaus.

***Sextonia pubescens*** van der Werff, sp. nov.

TYPE: Peru. Loreto: Distr. Iquitos, Allpahuayo, Vasquez *et al.* 17660 (holotype, MO; isotypes, AMAZ, B).

*Sextoniae rubrae* similis, sed floribus pubescentibus, cupula fructum fere omnino includente differt.

Trees, 25 m tall. Twigs terete, thick, densely pubescent at the level of the leaves, becoming glabrous, corky and with conspicuous scars of fallen leaves when older; terminal buds densely pubescent. Leaves clustered at the tips of the branches, elliptic to obovate, 15–25  $\times$  5.5–8 cm, chartaceous, flowering specimen with very young leaves, these 10–13  $\times$  2–3 cm, the base gradually narrowed into the petiole, the apex obtuse, upper surface glabrous, lower surface with some scattered appressed or erect hairs, these denser along midrib and lateral veins, or glabrous; lateral veins 8–12 pairs; midrib and lateral veins immersed on upper surface, raised on lower surface, tertiary venation weakly raised or immersed on both surfaces; petioles sparsely to densely pubescent, 2–2.5 cm long,

but petiole poorly differentiated from the decurrent lamina base. Inflorescences densely pubescent, ca. 3 cm long, racemose. Flowers bisexual, densely pubescent, yellow. Tepals 6, erect at anthesis, unequal, outer 3 1.4 mm, inner 3 1.8–2 mm long, densely pubescent outside, sparsely pubescent inside; outer 6 stamens tongue-shaped, ca. 1.6 mm long, pubescent dorsally, anther cells 4, arranged in an arc, the stamens opposite the larger tepals with 2 small glands at the base; inner 3 stamens ca. 1.6 mm long, pubescent, tongue-shaped, with 2 small glands at the base, the 4 cells arranged in two pairs, staminodia 3, triangular, densely pubescent; pistil glabrous, ovary globose, the style very slender; receptacle deep, almost closed at the top, glabrous inside. Fruits enclosed in the enlarged receptacle, at maturity 3  $\times$  3.5 cm, the cupule strongly ribbed and with only a terminal opening of ca. 5–8 mm.

*Sextonia pubescens* is known only from Amazonian Peru, where it occurs in primary, non-inundated forest. The only known flowering collection had very immature leaves, suggesting that the trees become deciduous shortly before flowering time and that flowers and new leaves appear at the same time. This is not the case in *S. rubra*, where flowers are formed when mature leaves are present. Because only one flowering collection is known for *S. pubescens*, the size of the inflorescence and its racemose character might not be constant for the species; additional collections may well have larger and more branched inflorescences. The floral measurements are taken from alcohol-preserved flowers; measurements made from dried flowers will give smaller values. The three fruiting collections from Allpahuayo have larger fruits than the Schunke Vigo collection, but the cupules of these fruits have a smaller terminal opening. Of the fruits illustrated in Figure 1, those depicted in Figure 1A and H come from the Schunke Vigo collection, while Figure 1G comes from a collection from Allpahuayo. Although I assume that these differences are related to the maturity of the fruits, this has not yet been conclusively demonstrated.

**Paratypes.** PERU. **San Martin:** Distr. Tocache Nuevo, Schunke Vigo 7439 (MO). **Loreto:** Distr. Iquitos, Allpahuayo, Vasquez & Jaramillo 11449 & 18246 (MO), Vasquez *et al.* 13772 (MO), van der Werff & Vasquez 13826 (MO).

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