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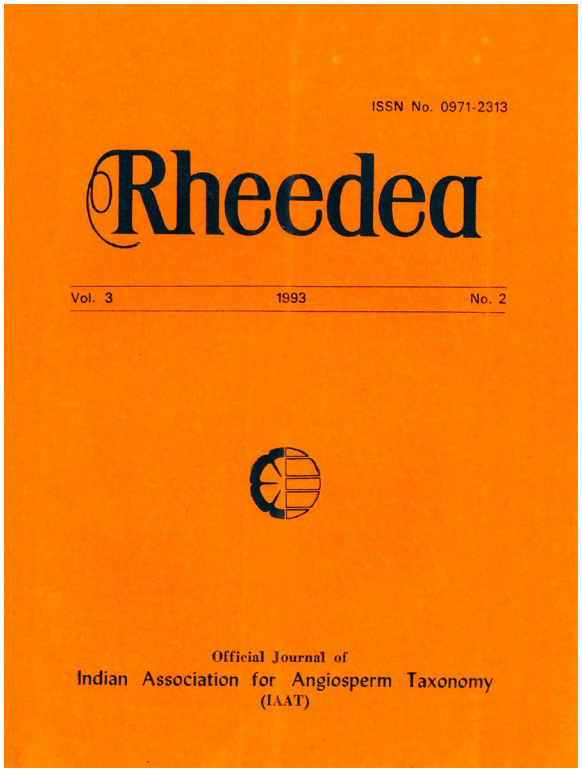

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Mutisiopersea Kostermans, a new genus in Lauraceae

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Abstract

The genus *Persea* Miller, sensu Kopp (1966) has been split up into two genera, *Persea* sensu stricto to which the Asiatic *Persea* species (formerly included in *Machilus* sensu Nees) also belong and the new genus *Mutisiopersea*, which differs from *Persea* (S. S.) by its indurate persistent sepals in the fruiting stage, those in *Persea* (S. S.) remaining unaltered, shrivelled and hanging downward or even completely lacking in fruits. In this way, these two genera fit better in Kostermans' system of Lauraceae, which is based on the development of the hypanthium and the sepals in the fruiting stage.

Kopp (1966) recognised two subgenera in *Persea* subgen. *Persea*, to which the Asiatic species belong, characterised by the patent or deciduous, non-indurate perianth segments subtending the fruits, and subgen. *Eriodaphne* C· G. Nees with the inner row of tepals deciduous half the distances from the base (a character common in *Cinnamomum*) and fruit either subtended by indurate, persistent sepals or those deciduous. In most species of this group, the fruits are unknown. I include species of the section *Hexanthera* Mez (with only 6 fertile stamens) and the section *Aurantaea* Kopp (with 9 fertile stamens), all with persistent, indurate tepals under the fruits in the new genus *Mutisiopersea*.

As in my own system of Lauraceous genera, the stress is on the nature of the fruiting perianth and less on the number of fertile stamens and still less on the number of anther cells in stamens. I have created *Mutisiopersea* (although I could have chosen the section Aurantaea as its basis) mainly on the basis of its persistent, indurate, patent, but not very large tepals under the fruits. The indurate tepals in the Asiatic genus *Phoebe* are quite different: they clasp the fruits to half the length of fruits, are differently coloured and are centrally thickened whereas the fruits are ovoid conical. *Appllonias* differs only in the number of anther cells and is hence, extremely close to *Phoebe*, its two species, one in the Canary Islands and one in India have apparently evolved independently by reduction of anther cells in *Phoebe*.

Kostermans (1957) reduced the genera *Alseodaphne* Nees, *Nothaphoebe* Bl. and *Caryodaphnopsis* Airy Shaw into subgenera of *Persea*. This proved to be unsatisfactory and I accepted smaller genera. *Caryodaphnospis* is now considered a

proper genus, represented in Asia and in tropical America. The genera *Alseodaphne* (including *Stemmatodaphne* Gamble) and Dehaasia Bl. have been treated monographically as separate genera, differing only in the number of anther cells, two in *Dehaasia* and four in *Alseodaphne*. Both these differ from other *Perseinae* by the swollen, fleshy fruit stalks. Nearest to *Alseodaphne* is the genus *Nothophoebe (Northaphoebe)* Bl. with the same wood characteristics and same flower structure, but differing in the nature of fruiting pedicel (not swollen). I am inclined to include the latter in *Alseodaphne* as a subgenus.

The genera *Phoebe* sensu Nees and *Apollonias* do not belong to the *Perseinae*, because of their persistent, conspicuously thickened sepals under the fruits. *Apollonias*, apparently, being a derivative of *Phoebe*, differing only by the reduced number of anther cells, an evolutionary phenomenon, which should not be underestimated.

As a result of all these, the genus *Persea* Miller (syn. *Machlius* sensu Nees) is characterised by the nonindurate, patent or reflexed, persistent or deciduous tepals under the fruit and a complete set of staminal whorls. The stamens have conspicuous, slender filaments, the inner ones with stipitate glands. The flower tube is not developed and does not grow out in the fruiting stage. These characteristics bring it closer to *Beilschmiedia* Nees with two-celled anthers.

The new genus differs from *Persea* only and mainly by its indurate tepals and the fruiting stage and perhaps, the shorter filaments. It is comparable with *Nothophoebe* in its alliance to *Alseodaphne*. But, the generic separation is justified because numerous genera of Lauraceae are based on single determining characteristic.

The difference might be, indeed small, as in the case of *Nectandra* and *Ocotea* where the only distinguishing feature is the anther of which the cells are somewhat more apart in the former than in the latter. I have not accepted this very minimal difference as sufficient for generic separation and still consider *Nectandra* a part of *Ocotea*.

Having accepted this, the genus *Persea* as perceived by Kopp in her monograph of the American species of the genus, could not be maintained. Her section *Persea* agrees perfectly with the Asiatic genus *Machilus* sensu Nees, which I have hence, referred to *Persea*. The aberrant American *Persea* species with persistent, indurate tepals had to be excluded. I have created for them, the genus *Mutisiopersea*. *The section Eriodaphne*, however, seems to be a mixture. I have included only those species of the section with indurate fruiting tepals in the new genus. The genus is described below and the nomenclatural changes consequent to the generic separation are also provided.

Mutisiopersea Kosterm., gen. nov.

Persea sect. *Mutisiae* Kopp, Mem. New York Bot. Gard. 14: 13. 1966.

Persea sect. *Hexanthera* Mez, Jahrb. Bot. Gart. Berlin 5: 139. 1889.
Persea sect. *Aurantaea* Kopp, l. c. 15.
Persea sect. *Eriodaphne* Kopp, l. c. 11. (species with indurate fruit tepals only).

Arbores, foliis alternantibus exstipulatis, paniculis pseudo-terminalibus, tepalibus 6, exterioribus, tres interioribus multo minoribus, staminibus fertilibus 9 vel 6, antherae 4- vel 2- locellatis, series III glandulis basalibus munitis, tepalibus persistentibus induratis patentis vel erecto-patentis.

Type species: *Mutisiopersea mutisii* (HBK) Kosterm. (*Persea mutisii* H. B. K., Nov. Gen. & Sp. 2: 168. 1817).

Nomenclatural changes:

Mutisiopersea aurita (Miq.) Kosterm., comb. nov,
Persea aurita Miq., Linnaea 22: 805. 1849.
Mutisiopersea brenesii (Standley) Kosterm., comb. nov.
Persea brenesii Standley, Field Mus. Public. Bot. 18: 458. 1937.
Mutisiopersea campii (Kopp) Kosterm., com. nov.
Persea campii Kopp, Mem. New York Bot. Gard. 14: 99. 1966.
Mutisiopersea chamissonis (Mez) Kosterm., comb. nov.
Persea chamissonis Mez, Jahrb. Bot. Gard. Berlin 5: 168. 1889.
Mutisiopersea chrysophylla (Kopp) Kosterm., comb. nov.
Persea chrysophylla Kopp, Mem New. York Bot. Gard. 14: 61. 1966 (non *Persea chrysophylla* Mez ex Petzold).
Mutisiopersea corymbosa (Mez) Kosterm., Comb. nov.
Persea corymbosa Mez. Jahrb. Bot. Gart. Belin 5: 158. 1889.
Mutisiopersea costata (Meissner) Kosterm., comb. nov.
Persea costata Meissner in DC., Prodr. 15 (1): 50. 1864.
Mutisiopersea cuneata (Meissner) Kosterm., comb. nov.
Persea cuneata Meissner in DC., Prodr. 15 (1): 46. 1864.
Mutisiopersea donnell-smithii (Mez) Kosterm., comb. nov.
Persea donnell-smithii Mez. Arbeit. Kgl. Bot. Gart. Breslau 1: 113. 1892.
Mutisiopersea fastigiata (Kopp) Kosterm., comb. nov.
Persea fastigiata Kopp, Mem. New York Bot. Gard. 14: 88. 1966.
Mutisiopersea fulva (Kopp) Kosterm., comb. nov.
Persea fulva Kopp. Mem. New York Bot. Gard. 14: 28. 1966.
Mutisiopersea haenkeana (Mez) Kosterm., comb. nov.
Persea haenkeana Mez. Jahrb. Bot. Gart. Berlin 5: 174. 1889.
Mutisiopersea hexanthera (Kopp) Kosterm., comb. nov.
Persea hexanthera Kopp, Mem. New York Bot. Gard. 14: 86. 1966.
Mutisiopersea hintonii (Allen) Kosterm., comb. nov.
Persea hintonii Allen, J. Arnold Arbor. 26: 298. 1945.

Mutisiopersea hypoleuca (Rich.) Kosterm., comb. nov.
Phoebe hypoleuca A. Richard in Ramon de la Sagra, Cuba 11: 185. 1850.
Mutisiopersea krugii (Mez) Kosterm., comb. nov.
Persera krugii Mez, Jahrb. Bot. Gart. Berlin 5: 177. 1889.
Mutisiopersea liebmannii (Mez) Kosterm., comb. nov.
Persea liebmannii Mez, Jahrb. Bot. Gart. Berlin 5: 166. 1889.
Mutisiopersea major (Kopp) Kosterm., comb. nov,
Persea major Kopp, Mem. New York Bot. Gard. 14: 37. 1966.
Mutisiopersea mutisii (HBK) Kosterm., comb. nov.
Persea mutisii HBK, Nov. Gen. & Sp. 2:158. 1817.
Mutisiopersea nivea (Mez) Kosterm., com. nov.
Persea nivea Mez. Jahrb. Bot. Gart. Belin 5: 148. 1889.
Mutisiopersea oblongifolia (Kopp) Kosterm., comb. nov.
Persea oblongifolia Kopp, Mem. New York Bot. Gard. 14: 431. 1966.
Mutisiopersea peruviana (Nees) Kosterm., comb. nov.
Persea peruviana Nees, Syst. Laur. 155. 1836.
Mutisiopersea podadenia (Blake) Kosterm., comb. nov.
Persea podadenia Blake, Contrib. Gray Herb. 52: 621. 1917.
Mutisiopersea punctata (Meissner) Kosterm., comb. nov.
Persea punctata Meissner in DC., Prodr. 15 (1): 50. 1864.
Mutisiopersea rufotomentosa (Nees & Mart. ex Neas) Kosterm., comb. nov.
Persea rufotomentosa Nees & Mart. ex Nees, syst. Laur. 153. 1836.
Mutisiopersea ruizii (Macbride) Kosterm., comb nov.
Persea ruizii Macbride, Field Mus. Publ. Bot. 11: 18. 1931.
Mutisiopersea sericea (HBK) Kosterm., comb. nov.
Persea sericea HBK, Nov. Gen. & Sp. 2: 159. 1817.
Mutisiopersea standleyi (Allen) Kosterm., comb.nov.
Persea standleyi Allen, J. Arnold Arbor. 26: 301. 1945.
Mutisiopersea subcordata (R. & P.) Kosterm. comb. nov.
Persea subcordata R. & P., Fl. Peruv. 4: t. 492. 1802.
Mutisiopersea urbaniana (Mez) Kosterm., comb. nov.
Persea urbaniana Mez, Jahrb. Bot. Gart. Berlin 5: 143. 1889.
Mutisiopersea veraguasensis (Seemann) Kosterm., comb. nov.
Perse veraguasensis Seemann, Bot. Voyage Herald 193. 1854.
Mutisiopersea vesticula (Standley & steyermark) Kosterm., comb. nov.
Persea vesticula Standley & Steyermark, Field Mus. Publ. Bot. 23: 116. 1944.

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