Dr. Burret does cite André in L'Illustration Horticole, 1878, as to his observations concerning Humboldt's altitudinal data. This excerpt from the Le Tour du Monde articles, although quoted, is not quite identical with the statements that appeared in that journal in February, 1879, inasmuch as André withholds the name of the species on the western slope of the Quindío. This portion of the excerpt reads, "another species, smaller, as yet little known, of which I shall speak later."[27] Dr. Burret also cites Baron von Thielmann's *Vier Wege durch Amerika*, but appears to have overlooked André's name, mentioned in a footnote.

Recognition of André's publication establishes the botanical identity of the distinct species of waxpalm that occurs on the western slope of the Quindío, in the region of the town of Salento and of the rivers Boquío and Quindío. The full extent of its range is unknown. The elevations at which it grows may be placed, from available data, at 1,600 to 2,800 meters. The material thus far collected in the Salento area is quite uniform in character. André's brief description,[28] substantiated by his own and later collections, appears to be sufficiently adequate to validate the name *Ceroxylon ferrugineum* André.

[27] André, Édouard. *Les palmares de* Ceroxylon andicola *en Colombie.* Illust. Hort. **25**: 176. 1878.

[28] The description seems to meet the requirements of articles 36 and 37 of the International Rules.

BOTANY.—*New names in* Quercus *and* Osmanthus.[1] Elbert L. Little, Jr., U. S. Forest Service. (Communicated by William A. Dayton.)

New names for four natural hybrids in *Quercus* and validation of a combination in *Osmanthus* are needed for the revision of the *Check list of the forest trees of the United States*, now nearing completion. The four names in use in *Quercus* all must be rejected as later homonyms under Articles 60 (3) and 61 of the International Rules of Botanical Nomenclature (Ed. 3. 1935). As no other names are available, new epithets are desired under Article 69. Two of the names were used earlier for fossils, which are not included in indexes of living plants. However, the rules of botanical nomenclature apply to recent and fossil plants alike (Article 9).

Though it may be questioned whether it is useful or necessary to give hybrids binominal names like species, as permitted by Article 31, this established custom is followed here for uniformity. In genera of many species that cross readily, the number of natural and artificial hybrids may exceed the total number of species. For example, the number of named natural hybrids of *Quercus* in the United States, already more than 70 and still growing, is greater than the number of native arborescent species of the genus. Experimental evidence of the origin and parentage has been presented for very few of these supposed oak hybrids. Muller (Amer. Midland Nat. **27**: 478. 1942) has recently suggested that some so-called hybrids of *Quercus* may be only miscellaneous variations unworthy of names.

×Quercus asheana Little, nom. nov. Ashe Oak

Quercus cinerea Michx. ×*Quercus laevis* Walt.

Quercus cinerea ×*catesbaei* Ashe, Journ. Elisha Mitchell Sci. Soc. **11**: 88. 1894; Small, Bull. Torrey Bot. Club **22**: 76, pls. 234, 235. 1895.

Quercus brevifolia ×*catesbaei* Sudw., U. S. Dept. Agr. Div. Forestry Bull. **14**: 170. 1897.

×*Quercus ashei* Trel. (*Q. catesbaei* ×*cinerea*), Proc. Amer. Phil. Soc. **56**: 48. 1917; *nomen nudum.* Sarg., Man. Trees North Amer. ed. 2, 254. 1922; *nomen nudum.*

×*Quercus ashei* Trel., Mem. Nat. Acad. Sci. **20**: 13, 156, 200. 1924. Non *Quercus ashei* Sterrett, Journ. Elisha Mitchell Sci. Soc. **37**: 178. 1922.

A new name is needed for the hybrid between *Quercus cinerea* Michx. (Hist. Chênes Amér. no. 8, pl. 14. 1801) and *Quercus laevis* Walt. (Fl. Carol. 234. 1788; *Q. catesbaei* Michx.) because ×*Quercus ashei* Trel. is a later homonym

[1] Received October 17, 1942.

dating from 1924 instead of 1917 (Article 45). ×*Quercus ashei* Trel. (Proc. Amer. Phil. Soc. **56**: 48. 1917) founded only upon "(*Q. catesbaei* ×*cinerea*)," without description or citation of a previous one, must be rejected as a *nomen nudum*, because under Article 31 the name of a hybrid is subject to the same rules as names of species. Mention of the two supposed parent species without description would not be valid publication of a hybrid binomial under Articles 37 and 44.

Before the name ×*Quercus ashei* Trel. was properly published in 1924 by reference to Ashe's early description, *Quercus ashei* Sterrett had been validly published in 1922 for another oak. *Quercus ashei* Sterrett was renamed *Quercus similis* Ashe (Journ. Elisha Mitchell Sci. Soc. **40**: 43. 1924), which is to be rejected under Article 60 (1) as superfluous, and was also reduced to a synonym of *Quercus stellata* f. *paludosa* Trel. (Mem. Nat. Acad. Sci. **20**: 104, 105. 1924). Thus, *Quercus ashei* Sterrett is a synonym, and *Quercus ashei* Trel. is a later homonym. The new epithet for the hybrid, the range of which is recorded as Georgia, also honors the discoverer of this oak, the late William Willard Ashe.

×Quercus burnetensis Little, nom. nov.

BURNET OAK

Quercus macrocarpa Michx. ×*Quercus virginia* Mill.

×*Quercus coloradensis* Ashe, Bull. Torrey Bot. Club **49**: 268. 1922.

Non *Quercus coloradensis* Lesq., Mus. Comp. Zool. Bull. **16**: 46. 1888 (fossil, Eocene, Colorado).

The later homonym ×*Quercus coloradensis* Ashe, named for a river in Texas, is a hybrid between *Quercus macrocarpa* Michx. (Hist. Chênes Amér. no. 2, pl. 2, 3. 1801) and *Quercus virginiana* Mill. (Gard. Dict. Ed. 8, Quercus no. 16. 1768). This hybrid was discovered by Ashe along the Colorado River above Marble Falls in Burnet County, Tex., from which county the new name is taken.

Quercus coloradensis Lesq. is a fossil species from the Tertiary (Eocene epoch, Denver formation) at Golden, Colo. It was described by Lesquereux from two specimens collected in 1883, but Knowlton (U. S. Geol. Surv. Prof. Paper no. 155: 54. 1930) later could locate only one specimen, which was so fragmentary that it was not worth figuring. Trelease (Mem. Nat. Acad. Sci. **20**: 27. 1924) cited *Quercus coloradensis* Lesq. among the fossil oaks of America but did not mention ×*Quercus coloradensis* Ashe, which was published just two years before Trelease's monograph. Camus (Les Chênes **2**: 754. 1939) noted that Ashe's hybrid was a later homonym but did not rename it.

×Quercus cravenensis Little, nom. nov.

CAROLINA OAK

Quercus cinerea Michx. ×*Quercus marilandica* Muenchh.

×*Quercus carolinensis* Trel. (*Q. cinerea* ×*marilandica*), Proc. Amer. Phil. Soc. **56**: 48. 1917; *nomen nudum*. Sarg., Man. Trees North Amer., ed. 2, 266. 1922; *nomen nudum*.

×*Quercus carolinensis* Trel., Mem. Nat. Acad. Sci. **20**: 14. 1924. Non *Quercus carolinensis* Muenchh., Hausvater **5**: 254. 1770. Non *Quercus caroliniensis* Young [Young, William, Jr.], Cat. Arbr. Arb. Pl. Herb. Amer. 53. 1783; *nomen subnudum*.

Quercus cinerea ×*nigra* Ashe, Journ. Elisha Mitchell Sci. Soc. **11**: 91. 1894.

The hybrid between *Quercus cinerea* Michx. (Hist. Chênes Amér. no. 8, pl. 14. 1801) and *Quercus marilandica* Muenchh. (Hausvater **5**: 253. 1770) should be given a new name, as ×*Quercus carolinensis* Trel. is a later homonym. ×*Quercus carolinensis* Trel. was published in 1917 as a *nomen nudum* based merely upon "(*Q. cinerea* ×*marilandica*)" and without description. In 1924 it was validly published by reference to Ashe's earlier description of *Quercus cinerea* ×*nigra*. The new name ×*Quercus cravenensis* is based upon the same description by Ashe (Journ. Elisha Mitchell Sci. Soc. **11**: 91. 1894), though the parent species formerly known as *Quercus nigra* now bears the name *Quercus marilandica*. The hybrid has been recorded from Craven County, N. C., from which the new epithet was taken, and from Georgia and Texas.

Strangely, ×*Quercus carolinensis* Muenchh., which was not included in the *Index Kewensis*, has not been mentioned by recent authors, though it was validated as a binomial in the same rare work with three other pre-Linnaean species. These three important species of eastern United States are *Quercus marilandica* and

Q. palustris, published by Muenchhausen on the preceding page, and *Q. coccinea*, published after *Q. carolinensis* on the same page.

As the identity of *Quercus carolinensis* Muenchh. is not clear, it seems best to pass over it as a *nomen dubium* (Article 63). No useful purpose would be served by adopting it and adding to the confusion among the old names of the genus already replacing other names and used with different meanings. *Quercus carolinensis* Muenchh. was based entirely upon *Quercus Caroliniensis, virentibus venis muricata* of Catesby (Nat. Hist. Car. Fla. Bahama Is. **1**: 21, pl. 21, fig. 1. 1731), who in turn compared it with a slightly different, earlier species, *Quercus Virginiana rubris venis, muricata* of Plukenet (Alm. Bot. 309. 1696; Phytogr. pl. 54, fig. 5. 1691). Linnaeus (Sp. Pl. 996. 1753) cited, as synonyms of his variety *Quercus rubra* β, both Catesby's and Plukenet's species, but Muenchhausen without explanation asserted that *Q. carolinensis* was different from *Quercus rubra*. It was suggested by Valckenier Suringar (Rijks Herbarium Leiden Meded. **56**: 11. 1928) that probably Linnaeus had not seen Catesby's and Plukenet's plants but referred to their drawings instead. Linnaeus's variety β was designated later as *Quercus rubra subserrata* Lam. (Encycl. Méth. Bot. **1**: 720. 1785), with Catesby's and Plukenet's names as synonyms. Sargent (Rhodora **17**: 38. 1915; 18: 46. 1916) interpreted Catesby's figure of a single leaf and an acorn to represent the northern red oak. When he proposed that *Quercus rubra* L. be rejected as a *nomen ambiguum*, Rehder (Journ. Arnold Arb. **19**: 283–284. 1938) indicated also that Catesby's name apparently was referable to the northern red oak. Svenson (Rhodora **41**: 522. 1939), in advocating the name *Quercus rubra* L. (emend. Du Roi) for the northern red oak, mentioned "the very crude figure by Catesby." Though *Quercus carolinensis* Muenchh. possibly might be interpreted as an available name for the northern red oak, it is hoped that this name of uncertain identification will not be adopted for any species.

Quercus caroliniensis Young, published in a commercial catalog with a very brief, indefinite French description, should be rejected as it is scarcely more than a *nomen nudum* and is not recognizable. It was not listed in the *Index Kewensis*.

×Quercus filialis Little, nom. nov.
Varileaf Oak

Quercus phellos L. ×*Quercus velutina* Lam. ×*Quercus inaequalis* Palmer and Steyermark, Ann. Missouri Bot. Gard. **22**: 521. 1935. Non *Quercus inaequalis* Watelet, Descr. Pl. Foss. Bass. Paris 136, pl. 35, fig. 8. 1866 (fossil, Eocene, France).

×*Quercus filialis* is a new name for the hybrid between *Quercus phellos* L. (Sp. Pl. 994. 1753) and *Quercus velutina* Lam. (Encycl. Méth. Bot. **1**: 721. 1785). ×*Quercus inaequalis* Palmer and Steyermark must be rejected for this hybrid because it is a later homonym of the fossil species, *Quercus inaequalis* Watelet, from the Tertiary (Eocene epoch) in Belleu, France. (Incidentally, Watelet's fossil species was reduced to a synonym of *Pasaniopsis retinervis* Sap. and Mar. by Fritel, Journ. de Bot. **22**: 160. 1909.) The range of this hybrid, according to Palmer and Steyermark, is from southeastern Missouri to Arkansas and Louisiana. The new epithet refers to the hybrid origin as the filial generation or offspring of a cross between parents of different species.

Sargent (Silva North Amer. **8**: 180, pl. 436. 1895) interpreted ×*Quercus heterophylla* Michx. f. (Hist. Arb. Amér. **2**: 87, pl. 16. 1812) as a hybrid between *Quercus phellos* and *Quercus velutina*, the supposed parents of ×*Quercus filialis*. However, Hollick (Bull. Torrey Bot. Club. **15**: 303–309, illus. 1888) concluded that ×*Quercus heterophylla* Michx. f. was a hybrid between *Quercus phellos* and *Quercus rubra* (now *Quercus borealis* var. *maxima* (Marsh.) Sarg.). Later (Sci. Amer. **121**: 422, 429–430, 432, illus. 1919), he demonstrated this parentage to be correct by planting acorns of the hybrid and obtaining among the young trees individuals like the two parent species and many intermediate ones. Small (Man. Southeast. Fl. 428, 430. 1933) designated ×*Quercus dubia* (without author) as a hybrid between *Quercus phellos* and *Quercus velutina*.

Osmanthus megacarpus (Small) Small ex Little, comb. nov. Bigfruit Osmanthus

Amarolea megacarpa Small, Man. Southeast. Fl. 1043, 1507. 1933.

Osmanthus megacarpa Small, Man. Southeast. Fl. 1043. 1933; as synonym.

Osmanthus megacarpa Small; Gray Herbarium Card-Index, Issue 141; "In synon."
Osmanthus megacarpus Small; Hill, Index Kew. Sup. **9**: 196. 1938; "in syn."

When he published the new genus *Amarolea* Small (Man. Southeast. Fl. 1043, 1507. 1933), a segregate from *Osmanthus* Lour. (family Oleaceae), Small described one new species, *Amarolea megacarpa* Small, listing at the end of the description and as a synonym the name "[*Osmanthus megacarpa* Small]." This name in *Osmanthus*, just cited as a synonym, was not validly published there under Article 40. The *Gray Herbarium Card-Index* and *Index Kewensis Supplementum* both stated that the name was published in synonymy and thus did not validate it. The combination is published here merely to avoid making it unintentionally.

BOTANY.—*Notes on American Euphorbiaceae, with descriptions of eleven new species.*[1] LEON CROIZAT, Arnold Arboretum of Harvard University. (Communicated by E. P. KILLIP.)

It was my privilege to visit the United States National Herbarium during the summer of 1941, and the descriptions and notes that follow are based largely upon material seen at that time. Herbaria at which the specimens cited in this paper are deposited are indicated thus: AA, Arnold Arboretum; GH, Gray Herbarium of Harvard University; US, U. S. National Herbarium.

Andrachne L.

Pax and Hoffmann completely misunderstood this genus within the American range. They treat[2] *Andrachne phyllanthoides* Nutt. as a species of *Savia* Willd., a manifest error as the floral morphology of these two genera is very different and they are not even closely related. *Andrachne* is nearest *Phyllanthus* and *Actephila*, whereas *Savia* is consanguineous with *Cleistanthus* and *Amanoa*. Further, these authors place *A. brittonii* Urb. in the section *Phyllanthidea*, which is another error as this species is not close to *A. microphylla* Baill., the standard-species of that section, but is probably nearest to *A. telephioides* L. *Andrachne* ? *cuneifolia* Britton, which is overlooked by Pax and Hoffmann in their account of the American species, is not an *Andrachne* but a species of *Phyllanthus* (see the new combination effected under *Phyllanthus*).

Andrachne microphylla (Lam.) Baill. Et. Gén. Euphorb. 577. 1858; Muell.-Arg. in DC. Prodr. **15**[2]: 237. 1866; Pax & Hoffm. Pflanzenreich IV. 147. **15**: 178. 1922.

Croton microphyllum Lam. Encycl. Méth. **2**: 212. 1786.
Phyllanthidea microphylla Didr. Kjöb. Vid. Meddel. 1857: 150. 1857.

So far as I am aware, nothing in the literature indicates that this species has been reported since the time of Dombey. A fragment of the type, generously given me by Professor Humber of the Muséum d'Histoire Naturelle, Paris, shows that here belong (1) *Pennell* 14492—Peru: Depto. Lima: Near Viscas, along Río Chillón, alt. 1,800–2,000 meters (US); (2) *Haught* 39—Peru: Depto. Piura: Prov. Paita: Talara (US; distributed as "Tragia?").

Andrachne ciliato-glandulosa (Millsp.) Croiz., comb. nov.
Phyllanthus ciliato-glandulosus Millsp. Proc. California Acad. *II*, **2**: 219. 1889.
Tragia ciliato-glandulosa M. E. Jones, MS. in sched. (*an tantum*?).

This annual, endemic to Lower California, so closely resembles *A. microphylla* as to be very easily confused with it. Its characters are those of *Andrachne* sect. *Phyllanthidea*, there being a minute pistillode in the female flower. Millspaugh erred in crediting this species to *Phyllanthus* sect. *Menarda*, with which it has no relationship. The occurrence of very similar plants in Peru and lower California is not altogether unexpected, but it is interesting to note that *A. aspera* Spreng., endemic from the Punjab to Morocco, is very closely allied to *A. microphylla* and *A. ciliato-glandulosa*, and that *A. phyllanthoides* from the United States, is near *A. colchica*, from the Caucasus. The distribution of all these species is undoubtedly pre-Tertiary.

[1] Received August 12, 1942.
[2] Pflanzenreich IV. 147. **15**: 184. 1922; Nat. Pflanzenfam. **19c**: 66. 1931.