NOMENCLATURAL NOTES ON RAFINESQUE'S PUBLISHED PAPERS 1804–1840

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AN INTENSIVE EXAMINATION of all the known botanical publications of C. S. Rafinesque, issued between the years 1804 and 1840, bring out some very striking facts. In the long history of systematic botany no individual has suffered under the weight of authority to the extent of that illguided and erratic individual. His contemporaries considered his very numerous nomenclatural proposals to be illogical and uncalled for, and they accordingly very largely ignored his published work. There was no general priority rule in force at the time and doubtless his contemporaries, judging his work to be valueless, felt justified in ignoring it. He published an extraordinary number of new genera, new subgenera, new species, and new varieties, yet of his approximately 2700 legitimately published new generic names only about 30 are more or less universally accepted by botanists, and the percentage of currently accepted Rafinesque binomials is scarcely better.

If one examines the list of rejected generic names officially approved by the various International Botanical Congresses, it will be found that Adanson ranks first, with about 115 in this category, while Rafinesque is now second, with 77 rejected names; and actually the latter bids fair to replace Adanson in the first place in this unflattering category. The reason for rejecting casually published, long overlooked or little used generic names in favor of later ones proposed by other authors is, of course, to avoid the publication of numerous new binomials which would be required if the generally equitable rule of priority be strictly followed. Rafinesque insisted that time would render justice to him at last, but he was over-optimistic. It is unnecessary at this time to go into further details regarding the strange publishing activities of that erratic individual, for in the now completed *Index Rafinesquianus,* which it is hoped may be published within a year or so, ample data are included about him, his objectives, his ambitions, his career, and its unhappy end.

It is suspected that various botanists who knew that I was making a bibliographic study of Rafinesque's publications assumed that I would hew to the line and make an extraordinary number of new combinations on the basis of priority except as various Rafinesque generic names have been officially rejected. Nothing was further from my thought. A considerable amount of random sampling indicated that a great many of Rafinesque's legitimately published new genera and new species had been entirely overlooked by his contemporaries and successors. The extent of this oversight is indicated by the statement that there are actually not included in any

of our standard indices no less than about 740 of Rafinesque's legitimately published generic names, 325 subgeneric and sectional names, 2560 binomials, and 900 varieties; and all of these were published more than a century ago. After all, we do have a homonym rule, and this alone is sufficient reason for at least listing Rafinesque's proposed new names for plants.

In the projected *Index Rafinesquianus* it is not proposed to publish any new names. In my personal opinion, indices, dictionaries, encyclopedias, and popular descriptive floras are not proper places in which to publish new nomenclatural proposals; this for the simple reason that all such works become obsolete within a relatively short period of time, and further, because it is often very difficult to detect new names published in such works. I have preferred to list the new technical names as Rafinesque published them, making such reductions as seem definitely to be correct. I leave the matter of further identification, or even the rejection of this or that entity, to specialists, monographers, and those who, from intensive field work, have a wide working knowledge of the flora of this or that region. To attempt to reduce all of Rafinesque's very numerous species is a task quite beyond the ability of any one individual, for his work touched every major floristic area of the entire world. In actual practice it is usually possible definitely to determine the positions of his numerous new genera with certainty.

In spite of Rafinesque's vast publishing activities; in spite of the inordinate number of new genera and new species which he proposed and which, unfortunately, he usually characterized in a most sketchy manner; and in spite of the relatively early time that he was active in the publishing field (the first four decades of the last century), the nomenclatural upsets resulting from an intensive study of his proposals are relatively few. In fact, if we take advantage of the facilities by which certain of his generic names may ultimately be disposed of by making certain additions to the list of *nomina generica conservanda,* the necessary changes will be very few indeed. In the course of my investigations, where I have encountered nomenclatural proposals appertaining to the area covered by Gray's Manual, I have called special cases to the attention of Dr. M. L. Fernald, who is now completing his very critical revision for the eighth edition of that standard work. He has, particularly in the past decade, considered a number of Rafinesque proposals as to species, publishing from time to time in *Rhodora*. Occasionally other recent authors have given consideration to Rafinesque genera and species. Within the present century those American botanists who believe in numerous small genera as opposed to fewer large, more or less collective ones, have reinstated approximately 75 of Rafinesque's generic names; very few taxonomists have accepted their conclusions.

Considering the time in which Rafinesque was active and the vast field that he attempted to cover, a remarkably small percentage of his proposals in any way affect nomenclature now that we have the protection of the

officially approved list of *nomina generica conservanda;* they do, however, add vastly to our already complicated synonymy. In this short paper I consider a very few cases, accepting an occasional Rafinesque specific name as valid on the basis of priority. The surprising thing is that there are so very few indicated changes.

Taking up Rafinesque's proposed generic names, I note above that no less than 77 of these have already been officially rejected. Below I give a list of Rafinesque generic names, arranged in natural groups, where in each case (or at least in most cases) he has clear priority over the proposed names of other authors which are in current use. In practically every listed case it is the privilege of any author to accept some or all of these earlier Rafinesque generic names and to transfer hundreds of specific names to them; as a matter of fact without resorting to the conservation of generic names, where many binomials are involved, approximately 2,000 new binomials are possible.

In my personal opinion some of these Rafinesque generic names should be officially rejected, but I would not go so far as to reject all of them. I believe that recommendations for the rejection of selected names should come from specialists. If the group be a small one, and one in which there are no, or but few species of economic or horticultural importance, then my belief is that the Rafinesque generic name should be accepted, and the currently used one dropped into synonymy. In the case of all large genera I believe that the older Rafinesque names should be rejected; and to this list of large genera should be added certain of those names where economic species are involved, even if the genus be a small one such as *Xylia* Benth. (1842), for *Esclerona* Raf. (1838) was based on the same type, *Xylia xylocarpa* (Roxb.) Taub. (*Esclerona montana* Raf., *Xylia dolabriformis* Benth.); this is an important timber tree in India. Because of the horticultural importance of other groups I should not replace *Montrichardia* Crueg. (1854) by the earlier *Pleuropsa* Raf. (1838), or in the Orchidaceae, such changes as would be required if *Bifrenaria* Lindl. (1843) be replaced by *Adipe* Raf. (1837) and *Lycaste* Lindl. (1843) by *Deppia* Raf. (1837); nor in the Bignoniaceae would I replace *Kigelia* DC. (1845) by the earlier *Kigelkeia* Raf. (1838) because of the wide use of certain species of this genus in the tropics as ornamental trees.

I do not believe that the generic names for large groups should be changed even if Rafinesque's legitimately published ones for the same groups are earlier. Examples are *Castanopsis* Spach (1842) versus *Balanoplis* Raf. (1838); *Pasania* Oerst. (1866) versus *Arcaula* Raf. and *Balanaulax* Raf. (1838); *Neolitsea* (Benth.) Merr. (1905) versus *Bryantea* Raf. (1838); *Astronidium* A. Gray (1854) versus *Lomanodia* Raf. (1838); *Planchonella* Pierre (1890) versus *Xantolis* Raf. (1838); *Anemopaegma* Mart. (1845) versus *Cupulissa* Raf. (1837) and *Platolaria* Raf. (1838); *Daedalacanthus* T. Anders. (1864) versus *Upudalia* Raf. (1838); *Struthanthus* Mart. (1830) versus *Steirotis* Raf. (1820); *Lesquerella* S. Wats. (1888) versus *Discovium* Raf. (1819); *Cyclobalanopsis* Oerst.

(1865) versus *Perytis* Raf. (1838), and various others of this general nature.

Where the groups are small and of interest only to taxonomists, my feeling is that the earlier Rafinesque names should be adopted and later ones dropped into synonymy. Thus I can see no valid reason for accepting *Beauverdia* Herter, which was proposed to take a single South American species in 1941 when more than a century earlier (1838) Rafinesque based his genus *Ipheion* on the same type.[1] Even were I disposed to follow the late Dr. J. K. Small in his concept of small genera I see no justification for accepting the new generic names proposed by him between 1903 and 1933, when it can be shown that Rafinesque antedated him by a century or so.

In the official list of conserved names several may now be eliminated, for conservation was unnecessary. These are *Gynizodon* Raf. (1838) rejected in favor of *Miltonia* Lindl. (1837) (Orchidaceae); *Hexastylis* Raf. (1837), non Raf. (1825) and *Stylexia* Raf. (1838), rejected in favor of *Caylusea* St. Hil. (1837) (Resedaceae) and *Arkezostis* Raf. (1838), rejected in favor of *Cayaponia* Silva Manso (1836) (Cucurbitaceae). *Amorgyne* Raf. (1838) and *Bunilis* Raf. (1838) were rejected in favor of *Siphonychia* Torr. & Gray (1838). The reasons why they were rejected is that it was assumed that the title page dates in the several Rafinesque volumes where these names were first published were correct; but actually certain volumes dated 1836 were not published until 1837 and 1838.

I have included several entries where the different generic names were published in the same year. It may be possible to determine from reviews, or from other sources, which author actually does have priority, but I have made no serious attempt to determine this point. The cases are *Sabadilla* Raf. (1837) = *Sabadilla* Brandt & Ratzeb. (1837) = *Schoenocaulon* A. Gray (1837) (Liliaceae); *Gomphotis* Raf. (1838) = *Thryptomene* Endl. (1838) (Myrtaceae); *Borissa* Raf. (1820) = *Asterolinon* Hoffm. & Link (1820) (Primulaceae); and *Bubalina* Raf. (1820) = *Burchellia* R. Br. (1820) (Rubiaceae).

It has been suggested by some individuals that with the discovery of so many new generic and specific names which have been overlooked for more than a century, that the logical thing to do would be to outlaw all of Rafinesque's nomenclatural proposals which have not already been accepted by this or that botanist. Admittedly this would be a simple way out of the difficulties which confront us, but my reaction to such a proposal is that those who suggest this plan are really not well versed in the intricacies of botanical bibliography and nomenclature. I can see no reason for such an unjustifiable action. Incidentally it would for all time penalize that school of taxonomists who believe in small versus large genera, such as Messrs. Britton, Rose, Small, Rydberg, Greene, and others; for when they were seeking for names for generic segregates, they drew heavily on Rafinesque's proposals, even as Rafinesque drew on Adanson. The con-

[1] **Stearn, T.** Ipheion uniflorum (syns. Triteleia, Milla, Brodiaea, and Beauverdia uniflora). Gard. Chron. III. 114: 60–61. *fig. 31–32.* 1943.

servative botanist may object to the ideas, as to generic limits, of this school; in fact the evidence is that most botanists do not favor undue splitting of the larger more or less collective genera. They feel that interrelationships of groups can be indicated just as clearly by recognizing subgenera and sections. In the tabulated list of these old but generally overlooked Rafinesque generic names, there are approximately 75 cases where within the present century his names have been accepted in good faith by members of the school referred to, even if most systematists will, in all probability, look askance on such segregations.

It is true that in some cases these "splitters" did propose new generic names for some of the segregated groups when resource could have been had to Rafinesque's proposals. This is, however, not an unnatural oversight. The chief sinner in this respect was the late Dr. J. K. Small. I list here a number of illustrative cases. *Phyodina* Raf. 1837 (*Cuthbertia* Small, 1903, *Tradescantella* Small, 1903); *Galearis* Raf., 1833 (*Galeorchis* Rydb., 1901); *Pecteilis* Raf., 1837 (*Hemihabenaria* Finet, 1901); *Phyllepidum* Raf., 1808 (*Delopyrum* Small, 1913); *Plagidia* Raf., 1838 (*Gastronychia* Small, 1933); *Tarenaya* Raf., 1813 (*Neocleome* Small, 1933); *Zalitea* Raf., 1838 (*Zygophyllidium* Small, 1803); *Cartrema* Raf., 1838 (*Amarolea* Small, 1933); *Piloblephus* Raf., 1838 (*Pycnothamnus* Small, 1903); *Dasistoma* Raf., 1819 (*Brachygyne* Small, 1903); *Etornotus* Raf., 1840 (*Hydrotrida* Small, 1913); and *Ptilepeda* Raf., 1818 (*Tetraneuris* Greene, 1898).

Here are some illustrative cases of reinstatement of Rafinesque generic names within the present century: *Nemexia* Raf., taken out of *Smilax* Linn., *Blephariglottis* Raf. taken out of *Habenaria* Willd., *Tracaulon* Raf. taken out of *Polygonum* Linn., *Heterisia* Raf. and *Steiranisia* Raf. taken out of *Saxifraga* Linn., *Ozomelis* Raf. and *Pectiantia* Raf. taken out of *Mitella* Linn., *Dasyphora* Raf. taken out of *Potentilla* Linn., *Stylipus* Raf. taken out of *Geum* Linn., *Acmispon* Raf. taken out of *Hosackia* Dougl., *Adipera* Raf., *Ditremexia* Raf., *Emelista* Raf., *Herpetica* Raf., *Isandrina* Raf. and *Peiranisia* Raf. taken out of *Cassia* Linn., *Ascara* Raf. taken out of *Gleditsia* Linn., *Lomoplis* Raf. taken out of *Mimosa* Linn., *Neltuma* Raf. and *Orbexilum* Raf. taken out of *Psoralea* Linn., *Poponax* Raf. taken out of *Acacia* Willd., *Asemeia* Raf., *Pilostaxis* Raf. and *Trichlisperma* Raf. taken out of *Polygala* Linn., *Agaloma* Raf., *Lepadena* Raf. and *Zalitea* Raf. taken out of *Euphorbia* Linn., *Meriolix* Raf. taken out of *Oenothera* Linn., *Braxilia* Raf. and *Orthilia* Raf. taken out of *Pyrola* Linn., *Polycodium* Raf. taken out of *Vaccinium* Linn., *Steironema* Raf. taken out of *Lysimachia* Linn., *Stylisma* Raf. taken out of *Breweria* R. Br., *Thyella* Raf. taken out of *Ipomoea* Linn., *Decimum* Raf. taken out of *Hydrophyllum* Linn., *Stylodon* Raf. taken out of *Verbena* Linn., *Stomosia* Raf. and *Vesiculina* Raf. taken out of *Utricularia* Linn., *Distegia* Raf. and *Phenianthus* Raf. taken out of *Lonicera* Linn., *Triodanis* Raf. taken out of *Specularia* A. DC., *Mesadenia* Raf. taken out of *Senecio* Linn., and *Synosma* Raf. taken out of *Cacalia* Linn.

It is infinitely better in such cases, where an author really believes in narrow generic limits, to take names for his segregated groups from the earlier literature, when valid names are therein available, rather than to originate entirely new ones as Dr. Small did in a number of cases. Because of the low esteem in which Rafinesque's nomenclatural proposals have been held in the past, one suspects that the very fact that this or that modern author who accepts one of them will, in general, not be followed by the conservatives. Yet in spite of our prejudices against Rafinesque he was clearly correct in a great many of his generic proposals, even if modern botanists have officially rejected about 75 of them where he had clear priority; and undoubtedly many more will be added to this unflattering list. The botanists concerned in the generic segregates listed above were mainly E. L. Greene, N. L. Britton, J. N. Rose, P. A. Rydberg, J. K. Small, J. A. Nieuwland, H. D. House, and J. H. Barnhart.

VALID BUT AS YET NOT GENERALLY ACCEPTED RAFINESQUE GENERIC NAMES AND THEIR EQUIVALENTS.

ALGAE:

Arthrodia Raf. 1814 = Roya W. & G. West, 1896 = Closterium Nitzsch., 1817, *sensu lat.*

Dictilema Raf., 1814 = Microdictyon Decne., 1859.

Liacina Raf., 1825 = Tolypella R. Br., 1848.

Phoracis Raf., 1810 = Grateloupia Agardh, 1822.

FUNGI:

Acinophora Raf., 1806, 1814 = Arachnion Schwein., 1822.

Colonnaria Raf., 1806 = Linderia G. H. Cunningh., 1931, non Lindera Adans. (1763), nec Thunb. (1783).

Gemmularia Raf., 1819 = Tucahus Raf., 1830 = Pachyma DC. 1823.

Hydromycus Raf., 1808 = Hypolepis Raf., 1808 = Dacryomyces Nees, 1821.

Odontium Raf., 1838 = Odontia (Pers.) P. Henn., 1897.

ALISMATACEAE:

Luronium Raf., 1840 = Elisma Buchen., 1869 (1).[2]

GRAMINEAE:

Amphicarpon Raf., 1818 = Amphicarpum Kunth, 1829 (2).

Rytilix Raf., 1830 = Hackelochloa O. Kuntze, 1891 (1).

ARACEAE:

Pleuropsa Raf., 1838 = Montrichardia Crueg., 1854 (4).

COMMELINACEAE:

Dilasia Raf., 1838 = Streptylis Raf., 1838 = Phaeneilema Brückn., 1926 (*Murdannia* Royle, 1839; *Dichoesperma* Wight, 1853; *Prionostachys* Hassk., 1866; *Baulia* A. Chev., 1912) (30).

Heminema Raf., 1837 = Tripogandra Raf., 1837 (*Descantaria* Schlecht., 1853; *Disgrega* Hassk., 1866) (20).

Phyodina Raf., 1837 (*Cuthbertia* Small, 1903; *Tradescantella* Small, 1903) (5).

Siderasis Raf., 1837 = Pyrrhemia Hassk., 1869 (4).

LILIACEAE:

Aphoma Raf., 1837 = Iphigenia Kunth, 1843 (20).

Hexonix Raf., 1837 = Kozola Raf., 1837 = Heloniopsis A. Gray, 1859 (10).

[2] For the genera of flowering plants the figures in parentheses indicate the approximate number of species involved in each case. The total is in excess of 2000 binomials, varying from one or two in some genera to 200 or more in the extreme cases.

Ipheion Raf., 1837 = Beauverdia Herter, 1941 (1).
Sabadilla Raf., 1837 = Sabadilla Brandt & Ratzeb., 1837 = Schoenocaulon A. Gray, 1837 (*Skoinolon* Raf., 1838) (12).
Siraitos Raf., 1838 = Chionographis Maxim., 1867 (5).

IRIDACEAE:
Phaiophleps Raf., 1838 = Symphyostemon Miers, 1841 (10).

ORCHIDACEAE:
Adipe Raf., 1837 = Bifrenaria Lindl., 1843 (30).
Caularthron Raf., 1837 = Diacrium Benth., 1881 (8).
Deppia Raf., 1837 = Lycaste Lindl., 1843 (50).
Dilomilis Raf., 1838 = Octadesmia Benth., 1881 (6).
Galearia Raf., 1833 = Galeorchis Rydb., 1901 (4) = Cypripedium Linn., *sensu lat.*
Jimensia Raf., 1838 = Bletilla Reichb. f., 1851–53 (12).
Pecteilis Raf., 1837 = Hemihabenaria Finet, 1901 (3) = Habenaria Willd., 1805, *sensu lat.*
Tulotis Raf., 1833 = Perularia Lindl., 1835 (10) = Habenaria Willd., 1805, *sensu lat.*

FAGACEAE:
Arcaula Raf., 1838 = Balanaulax Raf., 1838 = Pasania Oerst., 1866 (200).
Balanoplis Raf., 1838 = Castanopsis (D. Don) Spach, 1842 (150).
Perytis Raf., 1838 = Cyclobalanopsis Oerst., 1866 (65).

LORANTHACEAE:
Glutago Comm. ex Poir., 1821 = Oryctanthus Eichl., 1868 (20).
Hemitria Raf., 1820 = Phthirusa Mart., 1830 (80).
Steirotis Raf., 1820 = Struthanthus Mart., 1830 (140).

SANTALACEAE:
Nestronia Raf., 1838 = Darbya A. Gray, 1846 (1).

POLYGONACEAE:
Phyllepidum Raf., 1808 = Delopyrum Small, 1913 (5) = Polygonella Michx., 1803, *sensu lat.*

CARYOPHYLLACEAE:
Plagidia Raf., 1838 = Gastronychia Small, 1933 (1) = Paronychia Mill., 1754, *sensu lat.*

LAURACEAE:
Bryantea Raf., 1838 = Neolitsea (Benth.) Merr., 1905 (75).

CRUCIFERAE:
Discovium Raf., 1819 = Lesquerella S. Wats., 1888 (80).
Oclorosis Raf., 1834 = Iodanthus Torr. & Gray, 1838 (2).

CAPPARIDACEAE:
Tarenaya Raf., 1813 = Neocleome Small, 1933 (2) = Cleome Linn. *sensu lat.*

ROSACEAE:
Chimanthus Raf., 1817 = Laurocerasus Reichb., 1828 (35) = Prunus Linn., *sensu lat.*
Eleiosina Raf., 1838 = Sibiraea Maxim., 1878 (8).

LEGUMINOSAE:
Esclerona Raf., 1838 = Xylia Benth., 1842 (11).

MELIACEAE:
Mioptrila Raf., 1838 = Toona M. Roem., 1846 (20) = Cedrela P. Browne, 1756, *sensu lat.*

EUPHORBIACEAE:
Agaloma Raf., 1838 = Tithymalopsis Klotzsch & Garcke, 1859 (40) = Euphorbia Linn., *sensu lat.*
Bivonea Raf., 1814 = Cnidoscolus Pohl, 1827 (65) = Jatropha Linn., *sensu lat.*

Lepadena Raf., 1838 = Dichrophyllum Klotzsch & Garcke, 1859 (3) = Euphorbia Linn., *sensu lat.*
Zalitea Raf., 1838 = Zygophyllidium Small, 1903 (6) = Euphorbia Linn., *sensu lat.*

STAPHYLEACEAE:
Hebokia Raf., 1838 = Euscaphis Sieb. & Zucc. "1835," *sphalm.* [1840] (2).

MYRTACEAE:
Gomphotis Raf., 1838 = Thryptomene Endl., 1838 (40).

MELASTOMATACEAE:
Alifana Raf., 1838 = Brachyotum Triana, 1867 (45).
Lomanodia Raf., 1838 = Astronidium A. Gray, 1854 (Naudiniella Krasser, 1893). (15).

ONAGRACEAE:
Meriolix Raf., 1819 = Calylophis Spach, 1835 (4) = Oenothera Linn., *sensu lat.*

UMBELLIFERAE:
Agemoron Raf., 1840 = Astrodaucus Drude, 1898 (4).
Anginon Raf., 1840 = Rhyticarpus Sonder, 1862 (5).

CORNACEAE:
Cynoxylon Raf., 1828, 1838 = Benthamidia Spach, 1839 (2) = Cornus Linn., *sensu lat.*

PYROLACEAE:
Braxilia Raf., 1840 = Erxlebenia Opiz, 1852 (2) = Pyrola Linn., *sensu lat.*
Orthilia Raf., 1840 = Ramischia Opiz, 1852 (5) = Pyrola Linn., *sensu lat.*

ERICACEAE:
Polycodium Raf., 1819 = Picrococcus Nutt., 1843 (20) = Vaccinium Linn., *sensu lat.*

PRIMULACEAE:
Borissa Raf., 1820 = Asterolinon Hoffm. & Link, 1820 (5).

SAPOTACEAE:
Spondogona Raf., 1838 = Dipholis DC., 1844 (20).
Xantolis Raf., 1838 = Planchonella Pierre, 1890 (145).

OLEACEAE:
Cartrema Raf., 1838 = Amarolea Small, 1933 (2) = Osmanthus Lour., 1790.

GENTIANACEAE:
Pleinta Raf., 1837 = Lapithia Griseb., 1845 (3) = Sabatia Adans., 1763, *sensu lat.*

ASCLEPIADACEAE:
Anthanotis Raf., 1817 = Asclepiodora A. Gray, 1876 (7) = Asclepias Linn., *sensu lat.*

CONVOLVULACEAE:
Bonanox Raf., 1821 = Calonyction Choisy, 1833 (25).
Diatremis Raf., 1821 = Pharbitis Choisy, 1833 (45).

LABIATAE:
Hyopogon Raf., 1817 = Micheliella Briq., 1897 (2).
Piloblephus Raf., 1838 = Pycnothymus Small, 1903 (1) = Satureia Linn., *sensu lat.*
Vleckia Raf., 1808 = Lophanthus Benth., 1829 (*Agastache* (Gronov.) O. Kuntze, 1891) (30).

SCROPHULARIACEAE:
Dasistoma Raf., 1819 = Brachygyne (Benth.) Small, 1903 (1).
Etornotus Raf., 1840 = Hydrotrida Small, 1913 (2) = Bacopa Aubl., 1775, *sensu lat.*
Tomanthera Raf., 1837 = Otophylla Benth., 1846 (4).

BIGNONIACEAE:
Cupulissa Raf., 1837 = Platolaria Raf., 1838 = Anemopaegma Mart., 1845 (65).

Kigelkeia Raf., 1838 = Kigelia DC., 1845 (20).
Lobonis Raf., 1838 = Sererea Raf., 1838 = Pithecoctenium Mart., 1840 (30).
Pongelia Raf., 1838 = Dolichandrone Fenzl, 1862 (20).
Potamoxylon Raf., 1838 = Couralia Splitg., 1841 (3).

OROBANCHACEAE:
Thalesia Raf., 1818 = Aphyllon Torr. & Gray, 1848 (15) = Orobanche Linn., *sensu lat.*

ACANTHACEAE:
Crateola Raf., 1838 = Oplonia Raf., 1838 = Anthacanthus Nees, 1847 (15).
Idanthisa Raf., 1840 = Anisacanthus Nees, 1842 (18).
Upudalia Raf., 1838 = Daedalacanthus T. Anders., 1864 (20).

RUBIACEAE:
Bubalina Raf., 1820 = Burchellia R. Br., 1820 (1).

COMPOSITAE:
Ptilepeda Raf., 1818 = Tetraneuris Greene, 1898 (35) = Actinea Juss., 1803, *sensu lat.*

A FEW NEW NOMENCLATURAL CHANGES

In my forthcoming Index Rafinesquianus I have deliberately proposed no nomenclatural changes. Although a glance at the tabulation above will reveal many cases where Rafinesque's generic proposals antedate currently used names of numerous other authors, I do not, in this paper or in the Index Rafinesquianus, advocate the wholesale acceptance of these early published names, although on the basis of strict priority they could be accepted. I mention above how very little this late discovery of an extraordinary large number of unlisted but validly published generic names and binomials affect nomenclature, and suggest that certain types of Rafinesque's generic names be officially rejected in favor of the currently used ones. I do not believe that all of them should be eliminated, but would rather base the selection on genera with a fairly large number of known species, and those in which economic or ornamental plants are involved. I suspect that a really critical study of the numerous cases included in the manuscript *Index Rafinesquianus* would indicate a certain number of additional cases where adjustments in species names are called for on the basis of the rule of priority or because of the homonym rule; I am convinced, however, that this number will not prove to be a very high one. This, considering the relatively early date of Rafinesque's published proposals, none later than 1840, is rather extraordinary. The very few cases where I am convinced that changes are called for are:

ARACEAE

Pothos chinensis (Raf.) comb. nov.
Tapanava chinensis Raf. Fl. Tellur. 4: 14. 1836 [1837].
Pothos scandens sensu Lindl. Bot. Reg. 16: *pl. 1337.* 1830; Benth. Fl. Hongk. 344. 1861, non Linn.
Pothos seemannii Schott, Bonplandia 5: 45. 1857, Aroid. *22. pl. 43.* 1860; Engl. in DC. Monog. Phan. 2: 83. 1879, Pflanzenr. 21 (IV. 23B): *29. fig. 12.* 1905.

Rafinesque's species was based entirely on Lindley's description and plate illustrating what the latter erroneously thought to be *Pothos scandens*

as cited above in the synonymy, the reference being "Pothos scandens bot. mag. 1337." The species is rather common in southeastern China extending to Formosa, and to the provinces of Szechuan and Hupeh.

ORCHIDACEAE

Phaius woodfordii (Hook.) comb. nov.

Bletia woodfordii Hook. Bot. Mag. 54: *pl. 2719*. 1827.

Phaius maculatus Lindl. in Wall. List. no. 3748. 1830, *nom. nud.*, Gen. Sp. Orch. 127. 1830–40; Hook. Bot. Mag. 68: *pl. 3960*. 1842; Hook.f. Fl. Brit. Ind. 5: 817. 1890, 6: 192. 1890, cum. syn.

Hecabe lutea Raf. Fl. Tellur. 4: 44. 1836 [1838].

The first published description of this species is apparently that of Hooker in 1827. This, with its accompanying colored plate was based on specimens cultivated in England, received from Trinidad, it having been introduced into Trinidad from Asia. It was soon considered by various other authors and several colored plates appeared, such as that of Loddiges in 1832 and of Reichenbach in 1834, and others. Three colored plates of *Bletia woodfordii* Hook. are listed and eleven of *Phaius maculatus* Lindl. The indicated range is tropical Himalaya (Nepal, Sikkim), Khasia Mountains, China and Japan.

URTICACEAE

Pellionia pellucida (Raf.) comb. nov.

Nirwamia pellucida Raf. Sylva Tellur. 35. 1838.

Frutex urticae foliis et facie . . . Niwami. Thunb. Fl. Jap. 367. 1784; cf. Nakai, Bot. Mag. Tokyo 41: 515. 1927, *in nota.*

*Boehmeria *decumbens* Thunb. ex Nakai l.c., *nom. in nota.*

Pellionia scabra Benth. Fl. Hongk. 330. 1861; Wedd. in DC. Prodr. 16(1): 166. 1869.

Rafinesque's description of the genus *Nirwamia,* with a single species *N. pellucida* Raf., was based entirely on Thunberg's ample description, the generic name derived from one of the cited Japanese names, *niwami.* Nakai, who has examined Thunberg's actual specimen is the authority for its identity with *Pellionia scabra* Benth. It is not, as Hemsley thought, the same as *Villebrunnea frutescens* Blume = *V. fruticosa* (Gaudich.) Nakai. The species is known from southern Japan to Formosa, Hongkong, Kwangtung and westward to Yunnan.

RANUNCULACEAE

Caltha auriculata (Raf.) comb. nov.

Psychrophila auriculata Raf. Atl. Jour. 1: 144. 1832.

Caltha sagittata sensu Torr. Ann. Lyc. Nat. Hist. N. Y. 2: 164. 1826, non Cav.

Caltha leptosepala DC. var. *rotundifolia* E. Huth, Helios 9: 68. 1891.

Caltha rotundifolia Greene, Pittonia 4: 80. 1899; Rydb. Fl. Rocky Mts. ed. 2, 303. 1922 [1923].

Caltha chionophila Greene, l.c.

Torrey's description is ample, and that of Rafinesque is based entirely on it. The species extends from Wyoming to Utah and New Mexico. I accept Rydberg's reduction of *Caltha chionophila* Greene.

ELAEOCARPACEAE

Elaeocarpus crenatus (Raf.) comb. nov.
Ayparia crenata Raf. Sylva Tellur. 154. 1838.
Elaeocarpus rumphii Merr. Interpret. Rumph. Herb. Amb. 349. 1917.

Rafinesque's description was based entirely on the Rumphian description of "Ayparhus," i.e. *Eyparehu, Arbor redeviva* Rumph. Herb. Amb. 3: 165. pl. 104. 1743. The species is known only from the Moluccas.

MELASTOMATACEAE

Melastoma saigonense (O. Kuntze) comb. nov.
Osbeckia saigonensis O. Kuntze, Rev. Gen. Pl. 1: 247. 1891.
*Melastoma *villosum* Lodd. Bot. Cab. 9: *pl. 853.* 1824; Sims, Bot. Mag. 53: *pl. 2630.* 1826; Cogn. in DC. Monog. Phan. 7: 356. 1891; Guillaumin in Lecomte, Fl. Gén. Indo-Chine 2: 887. 1921, non Aubl. (1775).
Plerona villosum DC. Prodr. 3: 152. 1828.
Alosemia villosa Raf. Sylva Tellur. 96. 1838.
Lasiandra villosa Naud. Ann. Sci. Nat. III. Bot. 13: 128. 1859, non Naud. op. cit. 159.
Dissotis villosa Triana, Trans. Linn. Soc. 28: 57. 1871.

This is a common species in Indo-China, extending to Siam. When it was originally described by Loddiges, and two years later by Sims, from specimens cultivated in England, it was supposed to have come from tropical South America. In Kuntze's personal collection of *Osbeckia saigonensis* on which his description was doubtless based, the name *saigonensis* is indicated as of varietal status. Curiously this specimen is not cited by him, except by inference, his entry being: "Saigon. Auch von Godefroy Leboef dort gesammelt." Clearly the long-used specific name *villosum* is invalid because of the earlier and very different *M. villosum* Aubl. (1775) which belongs in *Tibouchina.* Guillaumin, l.c., inadvertently added another synonym in *"Pterotoma" villosa,* there being no such a generic name as *Pterotoma;* this is manifestly a misprint for *Plerona villosum* DC.

CLETHRACEAE

Clethra grisebachii nom. nov.
Clethra bracteata Griseb. Fl. Brit. W. Ind. 141. 1859, non Raf. (1838). Jamaica.

PRIMULACEAE

Dodecatheon pulchellum (Raf.) comb. nov.
Exinia pulchella Raf. Aut. Bot. 185. 1840.
Dodecatheon integrifolium sensu Hook. Bot. Mag. 64: *pl. 3622.* 1837, non Michx.
Dodecatheon meadia Linn. var. *pauciflorum* Durand, Jour. Acad. Nat. Sci. Phila. II. 3: 95. 1855.
Dodecatheon pauciflorum Greene, Pittonia 2: 72. 1890; Pax & Knuth, Pflanzenr. 22 (IV. 237): 242. 1905; Rydb. Fl. Rocky Mts. 654. 1918.
Meadia pauciflora O. Kuntze, Rev. Gen. Pl. 1: 398. 1891.

Exinia Raf., with a single species *E. pulchella* Raf. was based wholly on Hooker's illustration and description of what the latter erroneously assumed to represent *Dodecatheon integrifolium* Michx. Hooker's

material was from Carleton House Fort (Saskatchewan), and the Rocky Mountains, his illustration based on plants grown from seeds collected by Drummond in the Rocky Mountains. Greene gives the range as extending to Montana, Wyoming, Colorado and New Mexico; Rydberg indicates it as extending from the Mackenzie region and Saskatchewan to British Columbia, Washington and Colorado.

ACANTHACEAE

Mendoncia bivalvis (Linn.f.) comb. nov.
Besleria bivalvis Linn. f. Suppl. 280. 1781.
Drupina cristata Linn. Pl. Surinam. 11. 1775, Amoen. Acad. ed. Schreber 8: 259. 1785, *nom. nud.*
Picria surinamensis Spreng. Syst. 2: 843. 1826.
Senkenbergia debilis Raf. Sylva Tellur. 70. 1838.
Mendoncia perrottetiana Nees in DC. Prodr. 11: 53. 1847.

I do not consider that *Drupina cristata* Linn. is validly published. It appears first in Alm's dissertation *Plantae Surinamenses* 11. 1775 merely as "Drupina 148. *cristata.* Herba sesquipedalis simillima Besleriae cristatae." This is repeated in Schreber's edition of the *Amoenitates Academicae* 8: 259. 1785. I have found no published description of either the genus or the species. A footnote in the *Amoenitates Academicae* reprint reads "82. Besleria bivalvis, *Suppl.* 280" which explains this disposition of the binomial. This reduction is further verified by the data on the type sheet of *Besleria bivalvis* Linn. f. and the entry in Savage's *Catalogue of the Linnaean Herbarium,* p. 106. 1945: "Besleria 2 148. [*Pl. Surin. p. 11. n. 143.*] Drupina cristata. [Sm:] *Pl. Surinamenses* [*Ms.*] *No. 82. Besleria* **bivalvis Supp.**" Currently the generic name *Drupina* Linn. is placed by De Dalla Torre and Harms as a synonym of the gesneriaceous genus *Besleria* Linn., but they also entered it as a doubtful synonym of the scrophulariaceous genus *Curanga* Juss. *Senkenbergia* Neck. is placed as a synonym of *Justicia* Linn., but as interpreted by Rafinesque it belongs with *Mendoncia.* It is difficult to explain how Sprengel, who, of course, saw no specimen, could place the species under *Picria* Lour. (1790) = *Curanga* Juss. (1807), *Picria surinamensis* Spreng. being merely a new name for *Besleria bivalvis* Linn. f.; *Senkenbergia debilis* Raf. was also based wholly on the same binomial. The specimen in the Linnaean herbarium is an excellent one, type from Surinam (Dutch Guiana), and an examination of an excellent photograph of it shows clearly that it is identical with *Mendoncia perrottetiana* Nees, the type of which was also from Surinam.

SOLANACEAE

Acnistus campanulatus (Lam.) comb. nov.
Cestrum campanulatum Lam. Encycl. 1: 688. 1785.
Lycium aggregatum Ruiz & Pavon, Fl. Peruv. 2: 45. 1799.
Perderlea agregata Raf. Sylva Tellur. 54. 1838.
Perderlea cestroides Raf. l.c.
Acnistus aggregatus Miers in Hook. Lond. Jour. Bot. 4: 341. 1845.

This Peruvian species is apparently distinct from the West Indian and and Central American *Acnistus arborescens* (Linn.) Schlecht., although Schlechtendal, Linnaea 7: 67. 1832, placed the binomials of Lamarck and of Ruiz and Pavon in the synonymy of that species. Lamarck's type was from Peru, and Schlechtendal notes that the Dombey specimen which Lamarck had bears the same vernacular name as that cited by Ruiz and Pavon.

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