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THE GENUS *ERIOGONUM* MICHX. (POLYGONACEAE) AND MICHEL GANDOGER

James L. Reveal

**ABSTRACT.**—Michel Gandoger, a notorious “splitter,” proposed several new entities in the plant genus *Eriogonum* (Polygonaceae) in a 1906 paper published in Belgium. Because he used the term *species* at two different ranks, in violation of the International Code of Botanical Nomenclature, many of his names are invalid. Unlike his papers published in France, this one was apparently edited so that some names were validly published and some are invalid. A review of the 1906 *Eriogonum* paper shows that a majority of both specific and infraspecific entities proposed are valid, but some names, long in use and assumed to be valid, are, in fact, invalid. Even so, most of his names are synonyms. Each name proposed by Gandoger is reviewed and a nomenclatural and taxonomic disposition made. Two new combinations are made within *E. luteolum* Greene, var. *caninum* (Greene) Reveal and var. *pedunculatum* (S. Stokes) Reveal.

Michel Gandoger (1850–1926), in the words of Keck (1958), was a “French abbe; author of ‘Flora Europae’ (27 vols.); voluminous writer; amasser of a huge herbarium now at Lyon; a ‘splitter’ who named thousands of unacceptable species.” Gandoger is also mentioned in the International Code of Botanical Nomenclature (Stafleu et al. 1978) as an example of Art. 33.4. This article deals with the problem of misplaced ranks such as the use of the term *species* as a rank within a species. As noted in the code, Gandoger applied the term *species* and used binary nomenclature for two categories of taxa of consecutive rank, the higher rank being equivalent to that of species in contemporary literature, while he misapplied the same term to a lower rank. These latter terms are not validly published. In his 1906 paper, Gandoger used three sets of ranks, the species, species of the second order (“speciebus secundi ordinis”), and a rank which has come to be identified with the rank of variety (Heller 1907), although Gandoger causally refers to this latter rank as forms (“formis,” “formas secernendas,” “formae memorabiles,” “memorantur sequentes formae,” “varicas formas,” “modo formae,” etc.). He used the terms “varians” and “variabilis” to allude to the same category. As for the species of the second order, in addition to terming them “speciebus secundi ordinis,” he also used the term *subspecies* or *subspecies* to refer to entities he then proceeded to treat as binomials and to designate by the expression *sp. n.*

The following year, Heller (1907) presented a “compilation” of the Gandoger paper, noting that he was presenting only “the new forms described in this paper.” Heller himself had some difficulties with the names. He mentioned, after *Eriogonum aspalathoides* (as it was called by Heller), that this name was “perhaps intended as a variety of *E. fasciculatum*, but the way the name is printed should indicate a species.” Only once does Heller include Gandoger’s terminology alluding to species of a lower rank, this being for the phrases published under *E. sphaerocephalum*, “Inter formas varias duae sequentes, ut subspecies, praecipue distinguui possunt.”

It must be noted that Heller was merely presenting Gandoger’s results, and he cannot be assumed to have validated any of the otherwise invalid Gandoger names.

Normally, Gandoger published his papers in the *Bulletin de la Société Botanique de France*, but for *Eriogonum* his choice was the *Bulletin de la Société Royale de Botanique de Belgique*, and, because of this, some of the names may be validly described. Possibly

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they may because of the way the editor had the paper set, thereby removing from the original manuscript some of Gandoger’s eccentricities. In reviewing Gandoger’s papers in the French journal, it is clear that the majority of his names are invalidly published. In reviewing a few of his articles containing species from the United States, I failed to note a single instance when a species name was validly published. This little known fact, at least in the United States and perhaps elsewhere, means that all the Gandoger names must be carefully checked before they can be accepted. This is particularly true for floristic workers.

Finally, it is sometimes difficult to know exactly where the various sections of Gandoger’s paper start and end so that one can determine if the name is validly published or, in fact, is not because of a sentence presented several pages before. I have tried to follow the intent of Gandoger’s paper, and hope I have interpreted each segment correctly.

The following treatment indicates which names are valid, which are not, and the taxonomic status of each name. The full author citation of each name is given, and the number following the name is the page on which it was proposed by Gandoger.

_Eriogonum abertianum_ Torr. in Emory var. _ruberrimum_ Gandoger, 185, valid, a synonym of _var. abertianum_.

_Eriogonum abertianum_ var. _neomexicanum_ Gandoger, 185, valid, a synonym of _var. abertianum_.

_Eriogonum arizonicum_ Gandoger, non Stokes ex Jones, 186, valid, a synonym of _E. pharnaceoides_ Torr. in Emory var. _pharnaceoides_.

_Eriogonum alatum_ Torr. in Sitgr. var. _maddougiisii_ Gandoger, 186, valid, a synonym of _var. megolomense_ Stokes ex Jones.

_Eriogonum alatum_ var. _brevitolum_ Gandoger, 186, valid, a synonym of _var. alatum_.

_Eriogonum anemophilum_ (as _anemophilum_) Greene var. _cusickii_ Gandoger, 186, valid, a synonym of _E. cusickii_ M. E. Jones.

_Eriogonum angulosum_ Benth. var. _rectipes_ Gandoger, 186, valid, a synonym of _E. maculatum_ Heller.

_Eriogonum angulosum_ var. _patens_ Gandoger, 187, valid, a synonym of _E. maculatum_ Heller.

_Eriogonum angulosum_ var. _pauciflorum_ Gandoger, 187, valid, a synonym of _E. maculatum_ Heller.

_Eriogonum angulosum_ var. _flabellatum_ Gandoger, 187, valid, a synonym of _E. maculatum_ Heller.

_Eriogonum anuum_ Nutt. var. _pauciflorum_ Gandoger, 187, valid, a synonym of _E. anuum_.

_Eriogonum hitchcockii_ Gandoger, 187, valid, a synonym of _E. anuum_.

_Eriogonum jucinellum_ Gandoger, 187, valid, a synonym of _E. davidsonii_ Greene.

_Eriogonum salicorniodes_ Gandoger, 187, valid, a good species restricted to clay slopes in southwestern Idaho and adjacent southwestern Oregon. It is most closely related to _E. collinium_ Stokes ex Jones but most often confused with _E. baileyi_ S. Wats. Synonyms of this species include _E. demissum_ S. Stokes (1936) and the var. _romantum_ S. Stokes.

_Eriogonum caespitosum_ Nutt. var. _alysesoides_ Gandoger, 188, valid, a synonym of _E. caespitosum_.

_Eriogonum nevadense_ Gandoger, 188, valid, a synonym of _E. ochrocephalum_ S. Wats. _var. ochrocephalum_.

_Eriogonum elatum_ Dougl. ex Benth. var. _limonifolium_ Gandoger, 188, valid, a synonym of _E. elatum var. elatum_.

_Eriogonum elatum_ var. _crianthum_ Gandoger, 188, valid, a synonym of _var. elatum_.

_Eriogonum fasciculatum_ Benth. var. _oleifolium_ Gandoger, 189, valid, a synonym of _E. fasciculatum var. fasciculatum_.

_Eriogonum fasciculatum_ Benth. var. _aspalathoides_ Gandoger, 189, valid, a synonym of _var. fasciculatum_. As noted by Heller (1907), there is some problem with this name; that is, there is an _E._ prior to the epithet. However, based upon the rest of the text, this is clearly as printer’s error and should be listed as a variety and not as a species, as was done by Heller in his “compilation.”

_Eriogonum fluctum_ Nutt. in Fras. var. _folium_ Gandoger, 189, valid, a synonym of _E. jamesii_ Benth. in DC. var. _flavescens_ S. Wats.

_Eriogonum fluctum_ var. _linguisfolium_ Gandoger, 189, valid, a synonym of _var. fluctum_.

_Eriogonum leucocladum_ Gandoger, 189, valid, a synonym of _E. baileyi_ S. Wats. var. _divaricatum_ (Gandoger) Reveal.

_Eriogonum heracleoides_ Nutt. var. _micran-
Eriogonum longifolium var. longidens Gandoger, 190, valid, a synonym of E. longifolium Nutt. var. longifolium Gandoger, 190, valid, a synonym of E. longifolium var. gnaphalifolium Gandoger.

Eriogonum longifolium var. gnaphalifolium Gandoger, 190, valid, that phase of the species restricted to Florida; often called E. floridanum Small.

Eriogonum longifolium var. floridanum (as floridana) Gandoger, 190, valid, a synonym of E. longifolium var. gnaphalifolium Gandoger.

Eriogonum longifolium var. lindheimeri Gandoger, 190, valid, the western phase of the species now best considered a synonym of var. longifolium.

Eriogonum longifolium var. caput-felis Gandoger, 190, valid, a synonym of var. longifolium.

Under the heading, Eriogonum microthecum Nutt., Gandoger states "inter quas sequentes altem pro subspeciebus habueris" and refers to the following six entities all published with binary names.

Eriogonum macrodonta Gandoger, 191, invalid, a synonym of E. microthecum Nutt. var. foliosum (Torr. & Gray) Reveal. The name was used by Stokes (1936) at the variatal rank within E. microthecum, where she validated the name as E. microthecum var. macrodonta (Gandoger) Reveal.
Eriogonum ochroleucum var. decalvans Gandoger, 192, valid, a synonym of *E. ovalifolium* Nutt. var. macropodum (Gandoger) Reveal.

Under the heading of *Eriogonum ovalifolium* Nutt., Gandoger proposed a series of names in two ranks, all of which he refers to by "formas quarum non paucas saltem pro speciebus secundi ordinis haberi possunt," which I believe he wished to apply only to those names he indicated by the designation of sp. n.

*Eriogonum flavissimum* Gandoger, 193, invalid, a synonym of *E. ovalifolium* Nutt. var. *anserinum* (Greene) R. J. Davis. The name was used by Stokes (1936) as a subspecies of *E. ovalifolium*, where the name was validated as *E. ovalifolium* Nutt. ssp. *anserinum* S. Stokes.

*Eriogonum cusickii* Gandoger, non M. E. Jones (1903), 193, invalid, a synonym of *E. strictum* var. *proliferum* (Torr. & Gray) Reveal. The name was used at the variatal rank by Stokes (1936) within *E. strictum*, where the name was validated as *E. strictum* Benth. var. *cusickii* S. Stokes.

*Eriogonum cusickii* Gandoger var. *californicum* Gandoger, 193, invalid, a synonym of *E. strictum* var. *proliferum* (Torr. & Gray) Reveal.

*Eriogonum ovalifolium* Nutt. var. *nevadense* Gandoger, 193, valid, a good variety of the species, this being the yellow-flowered, early flowering expression which I have called var. *multiscapum* Gandoger (see below).

*Eriogonum ovalifolium* var. *deltaoides* Gandoger, valid. 193, a synonym of *E. ovalifolium* var. *nevadense* Gandoger.

*Eriogonum dichroanthum* Gandoger, 193, invalid, a synonym of *E. ovalifolium* Nutt. var. *nevadense* Gandoger (see discussion under var. *multiscapum* below).

*Eriogonum ovalifolium* Nutt. var. *utahense* Gandoger, 194, valid, a synonym of var. *ovalifolium*.

*Eriogonum ovalifolium* Nutt. var. *multiscapum* Gandoger, 194, valid, a synonym of *ovalifolium*. For several years I have misapplied this name to the yellow-flowered phase of the species (Reveal & Munz 1965, Reveal 1973, 1976). Gandoger based this name on plants gathered by Nelson (4658) at Cokeville, Uinta Co., Wyoming, upon which he also based the name *E. dichroanthum*. An examination of this collection by me in 1966, and then by my brother, Jon A. Reveal, in 1973, was inconclusive in that it could not be fully determined if the flowers of var. *multiscapum* were truly yellow. Gandoger divided the collection and mounted each on a separate sheet, with *E. dichroanthum* having "Flores frutusque flavissimi," and the flowers of var. *multiscapum*, to him, were "ochroleucui." The same collection at KSC is strictly yellow flowered, but the specimen at RM is a mixture of a bright-yellowed specimens matching *E. dichroanthum* and a whitish or, at best, pale yellow-flowered specimen that matches var. *multiscapum*. I now believe that the yellow-flowered, early spring flowering phase of the species should be called var. *nevadense* and the type of var. *multiscapum* assigned to var. *ovalifolium*.

*Eriogonum ovalifolium* Nutt. var. *cyclophyllum* Gandoger, 194, valid, a synonym of var. *macropodum* (Gandoger) Reveal. A reexamination of the types of var. *cyclophyllum* and var. *cerastoides* (see below), as part of this study, clearly shows that these names must be referred to what I (Reveal 1968) had earlier called var. *macropodum*, making a new combination for this name by transferring it from *E. ochroleucum Small* to *E. ovalifolium*. Previously, these two names have been referred to var. *ovalifolium* (Hitchcock 1964). The var. *cyclophyllum* is close to var. *ovalifolium* and may represent one of the many intermediate expressions between the two varieties. I retain the usage of var. *macropodum*.

*Eriogonum ovalifolium* Nutt. var. *cerastoides* Gandoger, 194, valid, a synonym of var. *macropodum* (Gandoger) Reveal (see the discussion above).

*Eriogonum rubidum* Gandoger, 194, invalid, a synonym of *E. ovalifolium* Nutt. var. *depressum* Blankinship.

*Eriogonum rubidum* var. *frigidum* Gandoger, 194, invalid, a synonym of *E. ovalifolium* Nutt. var. *depressum* Blankinship.

*Eriogonum roseiflorum* Gandoger, 194, invalid, a synonym of *E. ovalifolium* Nutt. var. *ovalifolium*.

*Eriogonum piperi* Greene var. *ochrocephalum* Gandoger, 195, valid, a synonym of *E.
flavum Nutt. in Fras. var. piperi (Greene) M. E. Jones.

Eriogonum piperi var. longisflorum Gandoger, 195, valid, a synonym of E. flavum Nutt. in Fras. var. piperi (Greene) M. E. Jones.

Under Eriogonum polyanthum Benth., now better known as E. umbellatum Torr. var. polyanthum (Benth. in DC.) M. E. Jones, Gandoger introduces two validly described species simply stating that “species duae sequentes huic sunt affines.”

Eriogonum marginale Gandoger, 195, valid, a synonym of E. umbellatum Torr. var. aureum (Gandoger) Reveal.

Eriogonum glaberrimum Gandoger, 195, valid, the basionym of E. umbellatum Torr. var. glaberrimum (Gandoger) Reveal.

Eriogonum glaberrimum var. aureum Gandoger, 195, valid, the basionym of E. umbellatum Torr. var. aureum (Gandoger) Reveal.

Eriogonum polycladon Benth. var. mexicanum Gandoger, 196, valid, a synonym of E. polycladon.

Eriogonum polycladon Benth. var. crispum Gandoger, 196, valid, a synonym of E. polycladon.

Eriogonum racemosum Nutt. var. sagittatum Gandoger, 196, valid, a synonym of E. racemosum.

Eriogonum racemosum Nutt. var. cordifolium Gandoger, 196, valid, a synonym of E. racemosum.

Eriogonum reniforme Torr. & Frém. var. asarifolium Gandoger, 196, valid, a synonym of E. pusillum Torr. & Gray.

Eriogonum praebens Gandoger, 196, valid, a synonym of E. baileyi S. Wats. var. divaricatum (Gandoger) Reveal.

Eriogonum praebens var. divaricatum Gandoger, 196, valid, the basionym of E. baileyi S. Wats. var. divaricatum (Gandoger) Reveal.

Under the heading Eriogonum sphaerocephalum Doug. ex Benth., Gandoger states “inter formas varias duae sequentes, ut sub-species, praecipue distinguui possunt.”

Eriogonum cupreum Gandoger, 196, invalid, a synonym of E. umbellatum Torr. var. umbellatum.

Eriogonum halimioides Gandoger, 197, invalid. This name was validated by Stokes (1936) as E. sphaerocephalum var. halimioides S. Stokes without reference to Gandoger.

Eriogonum subalpinum Greene var. arachnoideum Gandoger, 197, valid, a synonym of E. umbellatum Torr. var. dichrocephalum Gandoger.

Eriogonum subalpinum var. vulcanicum Gandoger, 197, valid, a synonym of E. umbellatum Torr. var. majus Hook.

Eriogonum subalpinum var. stenophyllum Gandoger, 197, valid, a synonym of E. umbellatum Torr. var. majus Hook.

Eriogonum tenellum Torr. var. grandiflorum Gandoger, 197, valid, a synonym of E. microthecum Nutt. var. laxiflorum Hook.

Eriogonum tenellum var. sessiflorum Gandoger, 198, valid, a synonym of E. microthecum Nutt. var. laxiflorum Hook.

Eriogonum tenellum var. crianthum Gandoger, 198, valid, a synonym of E. microthecum Nutt. var. ambiguum (M. E. Jones) Reveal in Munz.

Eriogonum thurberi Torr. var. parishii Gandoger, 198, valid, a synonym of E. thurberi.

Eriogonum thurberi var. acutangulum Gandoger, 198, valid, a synonym of E. maculatum Heller.

Eriogonum thymoides Benth. in DC. var. pallens Gandoger, 198, valid, a synonym of E. thymoides.

Eriogonum umbellatum Torr. var. cardallii Gandoger, 198, valid, a synonym of var. umbellatum.

Eriogonum umbellatum var. chrysanthum Gandoger, 198, valid, a synonym of E. umbellatum var. stellatum (Benth.) M. E. Jones.

Eriogonum umbellatum var. nevadense Gandoger, 198, valid, a good variety referring to that phase of the species found in the Sierra Nevada of California northward into Oregon and eastward into western Nevada that has been routinely called var. umbellatum (Reveal & Munz 1968; see Howell 1976).

Eriogonum umbellatum var. cladophorum Gandoger, 198, valid, a synonym of var. umbellatum.

Eriogonum umbellatum var. dichrocephalum Gandoger, 199, valid, a synonym of E.
Eriogonum umbellatum var. aridum (Greene) C. L. Hitchc. (Hitchcock 1964).

Eriogonum umbellatum var. californicum Gandoger, 199, valid. a synonym of E. umbellatum var. nevadense Gandoger.

Eriogonum vimineum Doug. ex Benth. var. rigescens Gandoger, 199, valid, a synonym of E. vimineum.

Eriogonum vimineum Doug. ex Benth. var. californicum Gandoger, 199, valid, a synonym of E. vimineum.

Eriogonum vimineum Doug. ex Benth. var. aridum (Greene) C. L. Hitchc. (Hitchcock 1964).

Eriogonum umbellatum var. aridum (Greene) C. L. Hitchc. (Hitchcock 1964).

Eriogonum vimineum var. oregonense Gandoger, 199, valid, a synonym of E. vimineum.

Eriogonum restioides Gandoger, 199, valid, a synonym of E. baileyi S. Wats. var. baileyi.

**Literature Cited**


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