Candolle's Prodromus : the role of father and son in relation to names in Lobostemon (Boraginaceae) and typification thereof

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Candolle's Prodromus: the role of father and son in relation to names in Lobostemon (Boraginaceae) and typification thereof

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Abstract

BUYS, M. H. & B. NORDENSTAM (2009). Candolle's Prodromus: the role of father and son in relation to names in Lobostemon (Boraginaceae) and typification thereof. *Candollea* 64: 289-293. In English, English and French abstracts.

Errors in author citations of *Lobostemon* Lehm. names published by Augustin-Pyramus and Alphonse de Candolle in the *Prodromus* are highlighted and corrected. Type details of 19 new Candolle names pertaining to *Lobostemon* are provided.

Key-words

BORAGINACEAE – *Lobostemon* – Augustin-Pyramus de Candolle – Alphonse de Candolle – Nomenclature – Prodromus

Résumé

BUYS, M. H. & B. NORDENSTAM (2009). Le Prodrome des Candolle: rôle du père et du fils dans la publication des noms du genre Lobostemon (Boraginaceae), et leur typification. *Candollea* 64: 289-293. En anglais, résumés anglais et français.

Des erreurs dans la citation de l'autorité de noms publiés dans le genre *Lobostemon* Lehm. par Augustin-Pyramus et Alphonse de Candolle dans le *Prodromus* sont mises en évidence et corrigées. Dix-neuf nouveaux taxons décrits par les Candolle dans le genre sont typifiés.

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Introduction

According to CANDOLLE (1873: 313), a total of 58975 species were published in the multi-volumed and multi-authored *Prodromus systematis naturalis regni vegetabilis* – 11790 as new and 47185 as existing names. About 26000 of these, including varieties, are incorporated in the *International Plant Name Index* (IPNI). Whereas it is easy to import IPNI names occurring in the *Prodromus* into a database for scrutiny (we used "Botanical Research And Herbarium Management System (Brahms)"), the data cannot be queried with confidence because basionym authors are not consistently indicated and because one of the main indices that constitutes the IPNI, *Index Kewensis*, only recorded infraspecific names from 1971. The ca. 2600 varieties in IPNI pertaining to the *Prodromus* are due to records obtained from the *Gray Card Index* (New World names) and the *Australian Plant Names Index* implying that some infraspecific names in the *Prodromus* have undoubtedly been missed.

Augustin Pyramus de Candolle (**DC.**) edited the multi-authored volumes 1-7 and also contributed to a number of families as sole author. After DC.'s death in 1841, his son, Alphonse Louis Pierre Pyramus de Candolle (**A. DC.**), edited volumes 8-17, which were also multi-authored. In these volumes there are posthumous contributions by DC. as well as contributions by A. DC. as sole author. With the limitations in the IPNI data mentioned above in mind, at least 12760 names of species are attributable to DC. as basionym or publishing author – clearly, an immense contribution. This led BUEK (1842: [iii]) to what can best be described as a religious experience, for following the title page, he all but sanctifies DC.: "Botanicis quibuscunque, memoriam beati A.P. Decandolle pio gratoque animo colentibus hocce opusculum" [This small work is dedicated to all botanists honoring the memory of the blessed A. P. Decandolle with devotion and gratitude]. At least 1800 names have A. DC. as basionym or publishing author. In a similar manner, BUEK (1858: [iii]) dedicated the index to the *Prodromus* volumes 7(2)-13 to Alphonse de Candolle: "Viro doctissimo, clarissimo, experientissimo, Alphonso Decandolle, patris celeberrimi filio haud minus celebri, de scientia botanica meritissimo hocce opusculum" [This small work is dedicated to the highly learned, famous and experienced Alphonse Decandolle, not less renowned son of a highly renowned father, outstanding servant of the botanical science]. The grandson, Anne Casimir Pyramus de Candolle (**C. DC.**) also contributed about 570 new names or combinations to volume 16 (in the *Juglandaceae, Myricaceae* and *Piperaceae*) – this latter work did not generate any comment by Buek.

The *Borragineae*

The *Boraginaceae* (*Borragineae*) are discussed in volumes 9 and 10, published in 1845 and 1846 respectively. The family description in volume 9 is followed by a "Conspectus ordinis" on page 467 – an elucidation of the division of the family into four tribes: 1. *Cordieae*, 2. *Ehretieae*, 3. *Heliotropeae*, 4. *Borrageae*. The latter is further divided into six subtribes. Volume 9 then goes on to discuss tribes 1-3. The authorship of this work is attributed to DC.– the running header in the volume stating "(auctor DC.)" and the footnote provided by A. DC. alluding to this fact (this work was therefore completed before DC.'s death in 1841). A. DC. does, however, add numerous comments to his father's work as footnotes throughout and also supplies the "Addenda et Corrigenda" for the *Borragineae* at the end of volume 9.

Volume 10 contains the tribe *Borrageae*. On page 1, footnote 1, of this work, A. DC. informs the reader that the work on the *Borrageae* was started by DC. in 1840, but that a large amount of work was left unfinished (due to his death in 1841). A. DC. reports that he carefully re-examined everything, including distinguishing characters, and as a result reduced the number of *Borrageae* subtribes from six (as proposed by DC. in volume 9) to five, in addition to recognising a few more genera and numerous additional species. The conspectus of the five subtribes *(Cerintheae, Echieae, Anchuseae, Lithospermeae and Cynoglosseae)* in volume 10 are therefore authored by A. DC. (cf. page 1, footnote 4). However, DC. authored the entire *Cerintheae* and large parts of the *Anchuseae*, *Lithospermae* and *Cynoglosseae*. A. DC.'s main input here appears to be recognising subdivisions within genera, although more comprehensive generic contributions are interspersed throughout, e.g. *Alkanna* Tausch (cf. page 97). In the case of the *Echieae*, *Lobostemon* Lehm. is reported in the *Prodromus* to be authored by both DC. and A. DC. The following genus, *Echium* L., is divided into three sections: 1. *Trichobasis*, 2. *Synlobus*, 3. *Euechium*. Sections 1-2 are authored by DC. & A. DC. and section 3 solely by DC. Section *Trichobasis* contain eight names now all included in *Echiostachys* Levyns (LEVYNS, 1934), once belonging to, but now considered sister to *Lobostemon* (BUYS, 2000; RETIEF & BUYS, 2000). Section *Synlobus* contains three names, now all included in *Lobostemon*. Section *Euechium* contains what is considered to be true *Echium*. This implies that in the context of *Lobostemon* (and *Echiostachys*), all new names or combinations appearing in the *Prodromus* of Candolle must be authored as "DC. & A. DC.", in contrast to what is reported in STAFLEU & COWAN (1976) and databases such as IPNI, TROPICOS, PRECIS, etc.

Type details of Candolle's names now in *Lobostemon* or *Echiostachys*

Type details of the 19 valid new names by DC. and A. DC., now in *Lobostemon* or *Echiostachys*, are provided below with locality details, where applicable, sourced from DRÈGE (1843-1844) and supplemented with more exact localities when present on labels in G or P.

Echium alopecuroideum DC. & A. DC., Prodr. 10: 15. 1846.

Holotypus: SOUTH AFRICA: Western Cape, "Zwischen Groenekloof und Saldanhabaai, unter 500 Fuss, September, October", *Drège, J. F. 7854* (G-DC [G00137543]!; iso-: G!, K000418997!, K000418998!, P00571978!, P00599438!, W!).

Lobostemon breviflorus DC. & A. DC., Prodr. 10: 10. 1846.

Holotypus: SOUTH AFRICA: Northern Cape, "Modderfonteinsberg, 4000-5000 Fuss, November", *Drège, J. F. 7844a* (G-DC [G00137259]!; iso-: G!, K000577548!, MEL!, P00599711!, W!).

Lobostemon capitiformis DC. & A. DC., Prodr. 10: 12. 1846.

Holotypus: SOUTH AFRICA: Western Cape, "Dutoitskloof, 1000-2000 Fuss, October bis in Januar", *Drège, J. F. 7853* (G-DC [G00143010]!; iso-: P00599450!).

Lobostemon cephaloideus DC. & A. DC., Prodr. 10: 12. 1846.

Holotypus: South Africa: Western Cape, "Zwischen Tygerberg und Zandhoogte (am Fuss des Simonsberg), Sandfläche, unter 500 Fuss, October, December", *Drège, J. F. 9359* (G-DC [G00143004]!; iso-: P00599454!).

Lobostemon cinereus DC. & A. DC., Prodr. 10: 10. 1846.

Lectotypus (designated here): **SOUTH AFRICA:** Western Cape, "24/7/30, Jakkalsrivier und Heerenlogement", "*Echium trichotomum* Th.?", [Drège scripsit], *Drège, J. F. s.n.* (G-DC [G00137331]!; iso-: K!, P00599455!, and possibly P00599456!).

Syntypus: SOUTH AFRICA: Western Cape, "23/7/30, Kookfontein und Klipfontein" (Drège scripsit), *Drège, J. F. s.n.* (P00599457!).

Obs. Drège provides two localities, both near Heerenlogement, and DC. probably refers to both. The chosen lectotype fits the description well and refers specifically to the cited locality, namely Heerenlogement.

Lobostemon dregei DC. & A. DC., Prodr. 10: 6. 1846.

Holotypus: SOUTH AFRICA: Western Cape, "Paarlberg, 1000-2000 Fuss, November, December", *Drège, J. F. 7843a* (G-DC [G00137313]!; iso-: P00599495!).

Lobostemon fruticosus var. ***bergianus*** DC. & A. DC., Prodr. 10: 6. 1846.

Lectotypus (designated here): **SOUTH AFRICA:** Precise locality unknown, *Sieber, M. Fl. Cap. No. 92* (G-DC [G0013 7418]!; iso-: K!, L!, L!, MEL!, MEL!, PRE!, S!, W!).

Syntypi: SOUTH AFRICA: Western Cape, "Trado, auf Hügeln, 1500-2000 Fuss Höhe, Juli", *Drège, J. F. 7847* (G-DC!); **SOUTH AFRICA:** Western Cape, "Tafelberg und Duivelsberg, am Fuss des Berges, unter 1000 Fuss, Juli und August", "*Echium Bergianum* E. M. a." [Drège scripsit], *Drège, J. F. s.n.* (G.-DC, K!, K!, S!); **SOUTH AFRICA:** Western Cape, "Am Bergrivier bei Paarl unter 500 Fuss, November, December, Januar", "*Echium Bergianum* E. M. b." [Drège scripsit], *Drège, J. F. s.n.* (G-DC, K!, K!, S!); **SOUTH AFRICA:** Western Cape, "Paarlberg, an steinigen und felsigen Oerten, August, September, October", "*Echium Bergianum* E. M. c." [Drège scripsit], *Drège, J. F. s.n.* (G-DC, K!, K!, S!).

Obs. Drège also refers to a collection lettered *d*, but we have not been found this in any herbarium. The Sieber collection is chosen as the lectotype because it fits the description best, and duplicates thereof are widely available in both the northern and southern hemisphere.

Lobostemon obovatus DC. & A. DC., Prodr. 10: 10. 1846.

Holotypus: SOUTH AFRICA: Northern Cape, "3089. Bei Leliefontein, meistens auf den Höhen am Fuss des Ezelskop, 4000-5000 Fuss, November", "*Echium spathulatum* M." [Drège scripsit], *Drège, J. F. 3089* (G-DC [G0013 7297]!; iso-: K!, P00599612!, S!).

Lobostemon obtusifolius DC. & A. DC., Prodr. 10: 7. 1846.

Lectotypus (designated here): **SOUTH AFRICA:** Eastern Cape, Swartkops River, *Drège, J. F. 7850* (G-DC [G0013 7404]!).

Syntypus: SOUTH AFRICA: Eastern Cape, "Zwischen Kuga und Zondagsrivier, auf der Kalkfläche, unter 1000 Fuss, December", *Drège, J. F. 7851* (G-DC!, K!, P00417664!).

Obs. *Drège 7850* is chosen as the lectotype because A. DC. states that the description of *L. obtusifolius* was largely based on this collection.

Lobostemon oederiaefolius DC. & A. DC., Prodr. 10: 7. 1846.

Holotypus: South Africa: Precise locality unknown, *Drège, J. F. 9358* (G-DC [G00137406]!; iso-: P00599613!).

Lobostemon paniculiformis DC. & A. DC., Prodr. 10: 8. 1846.

Holotypus: South Africa: Western Cape, Groenekloof, "*Echium paniculatum* Thunb." [Drège scripsit], *Drège, J. F. s.n.* (G-DC [G00137272]!; iso-: HBG!, K!, K!, MEL!, S!, W!, W!).

Lobostemon scaber DC. & A. DC., Prodr. 10: 6. 1846.

Holotypus: South Africa: Precise locality unknown, Cape of Good Hope, *Thunberg s.n.* (UPS-THUNB 4114!).

Lobostemon stachydeus DC. & A. DC., Prodr. 10: 7. 1846.

Holotypus: South Africa: Western Cape, "Nieuweveldsbergen bei Beaufort, 3000-5000 Fuss, October", *Drège, J. F. 7849* (G-DC [G00137413]!; iso-: MEL!, P00599680!, S!).

Obs. The isotype in S does not have a Drège label, but a handwritten label by Sonder: "7849. *Lobostemon stachydeus* DC. Prodr. Nieuweveldsberg leg. Drège qui specimen dedit".

Lobostemon thymelaeoideus DC. & A. DC., Prodr. 10: 11. 1846, var. ***thymelaeoideus***.

Lectotypus (designated here): **South Africa:** Western Cape, "Nieuwekloof, an etwas feuchten Oerten, 1000-2000 Fuss, October", *Drège, J. F. 7846a* (G-DC [G00137054]!; iso-: BM!, G!, K!, MEL!, P00417662(a)!, P00599715!, S!, W!).

Syntypus: South Africa: Western Cape, "Giftberg, 1500-2500 Fuss Höhe, November", *Drège, J. F. 7846c* (G-DC [G00137057]!, G!, L!, MEL!, P00417662(c)!, P0059 9714, S!).

Obs. *Drège, J. F. 7846a* is the preferred specimen for lectotypification because it not only fits the description well, but also contains more complete duplicates than the syntype does.

Lobostemon thymelaeoideus var. ***setulosus*** DC. & A. DC., Prodr. 10: 12. 1846.

Lectotypus (designated here): **South Africa:** Western Cape, "Hexriviersklоof", *Drège, J. F. 7844b* (G-DC [G00142939]!; iso-: BM!, P00599708!, S!).

Syntypus: South Africa: Western Cape, Precise locality unknown, "*Echium strigosum* Ecklon! in h. Dun." (not located, possibly MPU?).

Lobostemon thymelaeoideus var. ***longifolius*** DC. & A. DC., Prodr. 10: 12. 1846.

Holotypus: South Africa: Precise locality unknown, Cape of Good Hope, *Drège, J. F. 7846d* (G-DC [G0014 3003]!; iso-: P00599717!).

Lobostemon verrucosus var. ***dregei*** DC. & A. DC., Prodr. 10: 8. 1846.

Holotypus: South Africa: Western Cape, "Groot Draakensteen und am Fuss des Paarlberg, auf steinigen lehmigen Höhen unter 1000 Fuss, September, November", "Echium verrucosum b." [Drège scripsit], *Drège, J. F. s.n.* (G-DC [G00137261]!; iso-: P00599710!).

Lobostemon verrucosus var. ***pauciflorus*** DC. & A. DC., Prodr. 10: 9. 1846.

Holotypus: South Africa: Western Cape, "Klein-Draakensteen und Dal Josaphat, unter 1000 Fuss, November, December, Januar", "Echium verrucosum c." [Drège scripsit], *Drège, J. F. s.n.* (G-DC [G00137336]!).

Lobostemon wurmbii DC. & A. DC., Prodr. 10: 11. 1846.

Holotypus: South Africa: Western Cape, "Wupperthal, vom Baron Th. von Wurmb gesammelt", *Drège, J. F. 7845* (G-DC [G00137072]!; iso-: MEL!, P00417663!, S!).

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