

Discovery of the type collection of *Arabis nuda* Bél. (Brassicaceae)

Ihsan A.
AL-SHEHBAZ



DIRECTEUR DE LA PUBLICATION : Bruno David
Président du Muséum national d'Histoire naturelle

RÉDACTEUR EN CHEF / *EDITOR-IN-CHIEF* : Thierry Deroin

RÉDACTEURS / *EDITORS* : Porter P. Lowry II ; Zachary S. Rogers

ASSISTANTS DE RÉDACTION / *ASSISTANT EDITORS* : Emmanuel Côté (adanson@mnhn.fr) ; Anne Mabilie

MISE EN PAGE / *PAGE LAYOUT* : Emmanuel Côté

COMITÉ SCIENTIFIQUE / *SCIENTIFIC BOARD* :

P. Baas (Nationaal Herbarium Nederland, Wageningen)
F. Blasco (CNRS, Toulouse)
M. W. Callmänder (Conservatoire et Jardin botaniques de la Ville de Genève)
J. A. Doyle (University of California, Davis)
P. K. Endress (Institute of Systematic Botany, Zürich)
P. Feldmann (Cirad, Montpellier)
L. Gautier (Conservatoire et Jardins botaniques de la Ville de Genève)
F. Ghahremaninejad (Kharazmi University, Téhéran)
K. Iwatsuki (Museum of Nature and Human Activities, Hyogo)
K. Kubitzki (Institut für Allgemeine Botanik, Hamburg)
J.-Y. Lesouef (Conservatoire botanique de Brest)
P. Morat (Muséum national d'Histoire naturelle, Paris)
J. Munzinger (Institut de Recherche pour le Développement, Montpellier)
S. E. Rakotoarisoa (Millenium Seed Bank, Royal Botanic Gardens Kew, Madagascar Conservation Centre, Antananarivo)
É. A. Rakotobe (Centre d'Applications des Recherches pharmaceutiques, Antananarivo)
P. H. Raven (Missouri Botanical Garden, St. Louis)
G. Tohmé (Conseil national de la Recherche scientifique Liban, Beyrouth)
J. G. West (Australian National Herbarium, Canberra)
J. R. Wood (Oxford)

COUVERTURE / *COVER* :

Image of the original illustration of *Arabis nuda* Bél.

Adansonia est indexé dans / *Adansonia* is indexed in:

- Science Citation Index Expanded (SciSearch[®])
- ISI Alerting Services[®]
- Current Contents[®] / Agriculture, Biology, and Environmental Sciences[®]
- Scopus[®]

Adansonia est distribué en version électronique par / *Adansonia* is distributed electronically by:

- BioOne[®] (<http://www.bioone.org>)

Adansonia est une revue en flux continu publiée par les Publications scientifiques du Muséum, Paris
Adansonia is a fast track journal published by the Museum Science Press, Paris

Les Publications scientifiques du Muséum publient aussi / *The Museum Science Press* also publish:

Geodiversitas, *Zoosystema*, *Anthropozoologica*, *European Journal of Taxonomy*, *Naturae*, *Cryptogamie* sous-sections Algologie, Bryologie, Mycologie.

Diffusion – Publications scientifiques Muséum national d'Histoire naturelle

CP 41 – 57 rue Cuvier F-75231 Paris cedex 05 (France)

Tél. : 33 (0)1 40 79 48 05 / Fax : 33 (0)1 40 79 38 40

diff.pub@mnhn.fr / <http://sciencepress.mnhn.fr>

© Publications scientifiques du Muséum national d'Histoire naturelle, Paris, 2019
ISSN (imprimé / *print*) : 1280-8571/ ISSN (électronique / *electronic*) : 1639-4798

Discovery of the type collection of *Arabis nuda* Bél. (Brassicaceae)

Ihsan A. AL-SHEHBAZ

Missouri Botanical Garden
4344 Shaw Boulevard
St. Louis, MO 63110 (United States)
Ihsan.al-shehbaz@mobot.org

Submitted on 30 November 2018 | accepted on 4 February 2019 | published on 27 August 2019

Al-Shehbaz I. A. 2019. — Discovery of the type collection of *Arabis nuda* Bél. (Brassicaceae). *Adansonia*, sér. 3, 41 (11): 97–100. <https://doi.org/10.5252/adansonia2019v41a11>. <http://adansonia.com/41/11>

KEY WORDS

Arabis,
Brassicaceae
Cruciferae,
Draba,
Drabopsis,
lectotypification.

ABSTRACT

Arabis nuda Bél., known for more than 160 years as *Drabopsis verna* K.Koch and more recently as *Draba nuda* (Bél.) Al-Shehbaz & M.Koch, was based on an illustration unaccompanied by a text and until now has been assumed to be the type, though the name has never been typified. The discovery of a specimen in the herbarium of Muséum national d'Histoire naturelle (P05413412), on which that original illustration was based, led to designating that specimen herein as the lectotype.

RÉSUMÉ

Découverte du spécimen type d'Arabis nuda Bél. (Brassicaceae).

Arabis nuda Bél., connue depuis plus de 160 ans en tant que *Drabopsis verna* K.Koch, et plus récemment comme *Draba nuda* (Bél.) Al-Shehbaz & M.Koch, était basée sur une illustration qui n'était pas accompagnée d'un texte et qui faisait office, jusqu'à maintenant, de type pour cette espèce, bien que le nom n'ait jamais été typifié. La découverte, dans l'herbier du Muséum national d'Histoire naturelle de Paris, du spécimen (P05413412) sur lequel l'illustration originale était basée, nous amène ici à désigner ce spécimen comme lectotype.

MOTS CLÉS

Arabis,
Brassicaceae
Cruciferae,
Draba,
Drabopsis,
lectotypification.

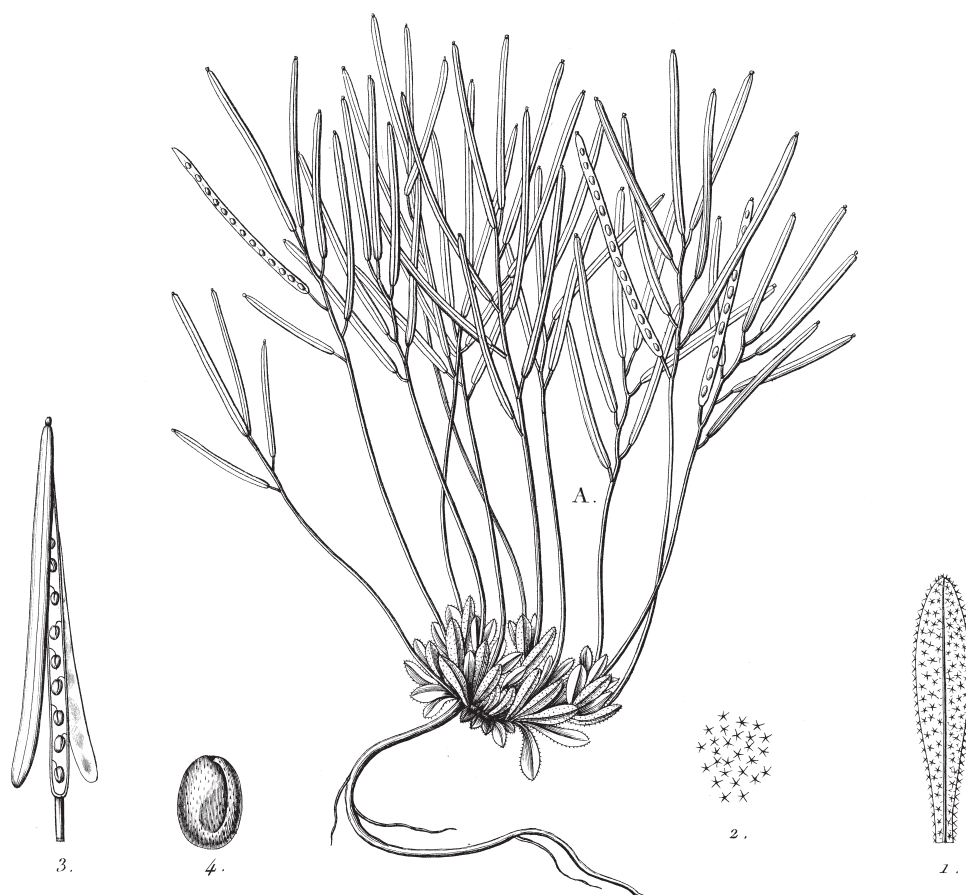


FIG. 1. *Arabis nuda* Bél.

Bélangier (1834) illustrated *Arabis nuda* Bél. based on material that he collected from “Perse” (Iran). His publication included 15 unnumbered plates that were unaccompanied by text. Many authors (e.g., Cullen 1965; Hedge 1968; Jafri 1973; Gustavsson 1977; Naqshi & Javeid 1984) believed that *A. nuda* was invalidly published and that Boissier (1842: 54) validated the name a year after Koch (1841) described the species as *Drabopsis verna* K.Koch. However, Schulz (1936) and Botschantzev (1963) recognized *A. nuda* as validly published and treated the species as *D. nuda*. Their action is currently in full agreement with Article 38.8 of the *International Code of Nomenclature for Algae, Fungi and Plants* (Turland *et al.* 2018), because the illustration (Fig. 1) had some details of the plant, including a basal leaf, dehiscent fruit, seed, and trichomes. Léonard (1977), who reproduced that illustration, did not lectotypify the basionym *A. nuda*, and subsequent botanists failed to do that as well.

Despite the placement of this species in several genera (e.g., *Arabidopsis* Heynh., *Arabis* L., *Sisymbrium* L., *Stenophragma* Čelak.), it remained widely accepted in *Drabopsis* for over 160 years. More recently, it was transferred to *Draba* L. by Al-Shehbaz & Koch (2003) based on preliminary molecular data, a placement that was later confirmed by Jordon-Thaden *et al.* (2010).

Earlier workers, including Al-Shehbaz & Koch (2003) and Al-Shehbaz (2015), recognized the original plate in Bélangier (1834) as the type of *Arabis nuda*, but their listing did not represent an effective typification of the name because it was post 2001 (see McNeill 2014; Turland *et al.* 2018: Article 9.23). However, no previous botanists have critically searched for authentic material in the herbaria of Muséum national d’Histoire naturelle (P) or the Conservatoire et Jardin botaniques de la Ville de Genève (G) until the author had an opportunity to check the bulk of Brassicaceae in both herbaria in 2015–2017. As a result, one sheet, P05413412 (Fig. 2), was discovered, and it has ten plants among which the one in the middle of the upper row matches very well the original illustration in Bélangier (1834), and the sheet is accompanied by pencil drawings of seeds and dehiscent fruit that perfectly resemble those in the published illustration. This sheet carries a single label, and there are no indications that it carries plants from different localities. Therefore, it is designated here as the lectotype.

Arabis nuda Bél.

In Voyage aux Indes-Orientales, Botanique, t. [15]A (1834). — *Draba nuda* (Bél.) Al-Shehbaz & M.Koch, *Novon* 13: 173 (2003). — Type: Perse [Iran], entre Sichmetaeh et Seidakud, 1825, C. P. Bélangier s.n. (lecto-, P[P05413412]! here designated; possible isolecto-, G00446345!).



FIG. 2. □ □□□□□□□ □□ *Arabis nuda* Pé. (□0□413412).

REMARK

The G sheet, collected from Iran in 1825, may well be an isoelectotype, although no locality information is indicated.

Acknowledgements

I am profoundly grateful to Pete Lowry for his editorial advice. I am also thankful to him, Germinal Rouhan, and Peter B. Phillipson for their help and support during my visits to P in 2016 and 2017, as well as to Laurent Gautier and Nicolas Fumeaux for their advice and help during visits to G in 2015 and 2016. Last but certainly not least, I am profoundly grateful to Dmitry A. German for his review of the manuscript and providing additional literature.

REFERENCES

- AL-SHEHBAZ I. A. 2015. — Brassicaceae (Cruciferae), in HONG D. Y. (ed.), *Flora of Pan-Himalaya*. Vol. 30 Science Press and Cambridge University Press: 1-594.
- AL-SHEHBAZ I. A. & KOCH M. 2003. — *Drabopsis* is united with *Draba* (Brassicaceae). *Novon* 13: 173-174. <https://doi.org/10.2307/3393511>
- BÉLANGER C. P. 1834. — *Voyage aux Indes-Orientales, par le nord de l'Europe, les provinces du Caucase, la Géorgie, l'Arménie et la Perse, suivi de détails topographiques, statistiques et autres sur le Pégou, les Îles de Java, de Maurice et de Bourbon, sur le Cap de Bonne-Espérance et Sainte-Hélène, pendant les années 1825, 1826, 1827, 1828 et 1829, publié sous les auspices des ministres de la marine et de l'intérieur*. Botanique. Arthus Bertrand, Paris.
- BOISSIER E. 1842. — Plantae Aucherianae orientales enumeratae, cum novarum specierum descriptione. *Annales des Sciences naturelles. Botanique et Biologie végétale*, série 2, 17: 45-91. <https://biodiversitylibrary.org/page/36219347>
- BOTSCHANTZEV V. P. 1963. — Notulae de nomenclatura, II. *Botanicheskie Materialy Gerbaria Botanicheskogo Instituta, Komarova Akademii Nauk SSSR* 22: 29-32.
- CULLEN J. 1965. — *Drabopsis*, in DAVIS P. H. (ed.), *Flora of Turkey* 1. University Press, Edinburgh: 444.
- GUSTAVSSON L. Å. 1977. — *Drabopsis verna* C. Koch (Brassicaceae) new to Europe. *Botaniska Notiser* 130: 213-214.
- HEDGE I. C. 1968. — Arabideae, in RECHINGER K. H. (ed.), *Flora Iranica*. Vol. 57. Akademische Druck-Verlagsanstalt, Graz-Austria: 193-218.
- JAFFRI S. M. H. 1973. — Brassicaceae, in NASIR E. & ALI S. I. (eds), *Flora of Pakistan*. Vol. 55. Ferozsons, Karachi, 308 p.
- JORDON-THADEN I., HASE I., AL-SHEHBAZ I. A. & KOCH M. A. 2010. — Molecular phylogeny and systematics of the genus *Draba* (Brassicaceae) and identification of its most closely related genera. *Molecular Phylogeny and Evolution* 55 (2): 524-540. <https://doi.org/10.1016/j.ympev.2010.02.012>
- KOCH C. 1841. — Catalogus plantarum, quas in itinere per caucum, georgiam, armeniamque annis MDCCCXXXVI et MDCCCXXXVII collegit D. Carolus Koch. *Linnaea* 15: 243-258. <https://biodiversitylibrary.org/page/105097>
- LÉONARD J. 1977. — Le genre irano-touranien *Drabopsis* et son unique espèce *D. nuda* (Cruciferae). *Publications from Cairo University Herbarium* 7-8: 295-297.
- MCNEILL J. 2014. — Holotype specimens and type citations: general issues. *Taxon* 63: 1112-1113. <https://doi.org/10.12705/635.7>
- NAQSHI A. R. & JAVEID G. N. 1984. — *Drabopsis brevisiliqua* (Cruciferae) – a new species from Kashmir. *Journal of Economic and Taxonomic Botany* 5: 963-966.
- SCHULZ O. E. 1936. — Cruciferae, in ENGLER A. & PRANTL K. (eds), *Die natürlichen Pflanzenfamilien*, ed. 2, 17B. Verlag von Wilhelm Engelmann, Leipzig: 227-658.
- TURLAND N. J., WIERSEMA J. H., BARRIE F. R., GREUTER W., HAWKSWORTH D. L., HERENDEN P. S., KNAPP S., KUSBER W.-H., LI D.-Z., MARHOLD K., MAY T. W., MCNEILL J., MONRO A. M., PRADO J., PRICE M. J. & SMITH G. F. (EDS.). 2018. — *International Code of Nomenclature for Algae, Fungi, and Plants (Shenzhen Code)*. *Regnum Vegetabile* 159. Koeltz, Glashütten.

Submitted on 30 November 2018;
accepted on 4 February 2019;
published on 27 August 2019.