

NOMENCLATURE

Edited by Gerry Moore, James Lendemer & Erin Tripp

The correct names for species of *Aloe* sect. *Chortolirion* (*Asphodelaceae*: *Alooideae*)

Ronell R. Klopper,^{1,2} Gideon F. Smith,^{1,2,3} Estrela Figueiredo,^{3,4} Olwen M. Grace^{5,6}
& Abraham E. van Wyk²

¹ Biosystematics Research and Biodiversity Collections Division, South African National Biodiversity Institute, Private Bag X101, Pretoria 0001, South Africa

² H.G.W.J. Schweickerdt Herbarium, Department of Plant Science, University of Pretoria, Pretoria 0002, South Africa

³ Centre for Functional Ecology, Departamento de Ciências da Vida, Universidade de Coimbra, 3001-455 Coimbra, Portugal

⁴ Department of Botany, P.O. Box 77000, Nelson Mandela Metropolitan University, Port Elizabeth 6031, South Africa

⁵ Jodrell Laboratory, Royal Botanic Gardens, Kew, Surrey TW9 3DS, U.K.

⁶ Botanic Garden & Herbarium, Natural History Museum of Denmark, Sølvgade 83 Opg. S, 1307 Copenhagen K, Denmark

Author for correspondence: Ronell R. Klopper, r.klopper@sanbi.org.za

Abstract The correct names and synonymy for species of *Aloe* sect. *Chortolirion* (A. Berger) Boatwr. & J.C. Manning (*Asphodelaceae*: *Alooideae*) are provided. This treatment recognises four species in this section, namely *A. welwitschii*, *A. barendii*, *A. jeppeae* and *A. subspicata*. *Aloe subspicata* and *A. welwitschii* are treated as conspecific by some authors.

Keywords *Aloe*; *Alooideae*; *Asphodelaceae*; *Chortolirion*; *Haworthia*; synonymy

Received: 4 Apr. 2013; revision received: 29 Aug. 2013; accepted: 10 Sep. 2013. DOI: <http://dx.doi.org/10.12705/626.5>

■ INTRODUCTION

Chortolirion A. Berger has a history of taxonomic uncertainty, and has been variously allied to *Haworthia* Duval and *Aloe* L. (Smith, 1991; Treutlein & al., 2003). The vast majority of the contemporary published research on *Aloe* and *Chortolirion*, including several books and numerous papers, has been produced by participants of the Aloes of the World (AWP) project. Established in 2007, the AWP currently has over 40 members from around the world (Smith & al., 2008a, b; Klopper & al., 2010, 2013; Klopper & Smith, 2013; Smith, 2013). This initiative provides a community for *Aloe* scholars, specialists and enthusiasts to collaborate and disseminate information on the genus and its kin, thus informing interested parties of research on subfamily *Alooideae* of the *Asphodelaceae*.

As part of ongoing research activities within the AWP, Grace & al. (2013) recently transferred three species of *Chortolirion* to *Aloe*. Shortly afterwards, Daru & al. (2013) similarly transferred species of *Chortolirion* to *Aloe*. Here we provide clarification on which names to use for these species in *Aloe*. The names proposed by two of us (R.R. Klopper and G.F. Smith) in Grace & al. (2013) have priority (McNeill & al., 2012, Art. 53.1), rendering two names published by J.S. Boatwright and J.C. Manning in Daru & al. (2013) synonymous with those in Grace & al. (2013).

■ CORRECT NAMES FOR SPECIES OF *ALOE* sect. *CHORTOLIRION*

1. *Aloe welwitschii* Klopper & Gideon F. Sm. in Phytotaxa 76: 12. Jan 2013 ≡ *Haworthia angolensis* Baker in Trans. Linn. Soc. London, Bot. 1(5): 263. 1878 ≡ *Chortolirion angolense* (Baker) A. Berger in Engler, Pflanzenr. IV 38 (Heft 33): 73. 1908 – Holotype: ANGOLA. Huilla [Huila] District: near Huilla [Huila], flowered Nov. 1859, F.M.J. Welwitsch 3756 (BM No. BM000911693 !).

Since the name *Aloe angolensis* Baker (in Trans. Linn. Soc. London, Bot. 1(5): 263. 1878) already exists, this combination is not available if *Chortolirion angolensis* is transferred to *Aloe*.

This rare species is restricted to the Huila Plateau in Angola and we regard it as distinct from material that occurs in the Flora of Southern Africa region. Unlike Daru & al. (2013), we accept *A. welwitschii* as distinct from *A. subspicata* (Baker) Boatwr. & J.C. Manning.

2. *Aloe barendii* Klopper & Gideon F. Sm. in Phytotaxa 76: 12. Jan 2013 ≡ *Haworthia tenuifolia* Engl. in Bot. Jahrb. Syst. 10: 2, t. 1. 1888 ≡ *Chortolirion tenuifolium* (Engl.) A. Berger in Engler, Pflanzenr. IV 38 (Heft 33): 73. 1908 ≡ *Aloe tenuifolia* (Engl.) Boatwr. & J.C. Manning in Taxon 62: 75. Feb 2013, non Lam. 1783, nom. illeg. – Holotype: SOUTH AFRICA. Northern Cape: Kalahari Region, near Kuruman, R. Marloth 1049 (B No. B100165765 !; isotype: PRE No. PRE0037837-0 !).

Since the name *Aloe tenuifolia* Lam. (*Encycl.* 1(1): 87. 1783) already exists, this combination is not available if *Chortolirion tenuifolium* is transferred to *Aloe*. The new combination published in Daru & al. (2013) is a later homonym and therefore illegitimate.

3. *Aloe jeppae* Klopper & Gideon F. Sm. in *Phytotaxa* 76: 12. Jan 2013 ≡ *Chortolirion latifolium* Zonn. & G.P.J. Fritz in *Bradleya* 28: 32. 2010 ≡ *Aloe aestivalis* Boatwr. & J.C. Manning in *Taxon* 62: 75. Feb 2013, nom. superfl., nom. illeg. – Holotype: SOUTH AFRICA. Free State: Bloemfontein near airport, 24 Apr. 2009, G.P.J. Fritz 1025 (PRE!).

Since the name *Aloe latifolia* (Haw.) Haw. (in *J. Linn. Soc. Bot.* 18: 164. 1880) already exists, this combination is not available if *Chortolirion latifolium* is transferred to *Aloe*. The replacement name, *A. aestivalis*, published in Daru & al. (2013) is superfluous and illegitimate (Art. 52.1 in McNeill & al., 2013).

4. *Aloe subspicata* (Baker) Boatwr. & J.C. Manning in *Taxon* 62: 75. Feb 2013 ≡ *Haworthia subspicata* Baker in *Bull. Herb. Boissier*, ser. 2, 4: 998. 1904 ≡ *Chortolirion subspicatum* (Baker) A. Berger in *Engler, Pflanzenr. IV* 38 (Heft 33): 74. 1908 – Holotype: SOUTH AFRICA. Gauteng: Modderfontein, 9 Sep. 1897, P. Conrath 645 (Z No. Z000023936!; isotype: K No. K000256772!).

■ ACKNOWLEDGEMENTS

We would like to thank the editor and an anonymous referee for suggesting improvements to the manuscript.

■ LITERATURE CITED

- Daru, B.H., Manning, J.C., Boatwright, J.S., Maurin, O., Maclean, N., Schaefer, H., Kuzmina, M. & Van der Bank, M.** 2013. Molecular and morphological analysis of subfamily *Alooideae* (*Asphodelaceae*) and the inclusion of *Chortolirion* in *Aloe*. *Taxon* 62: 62–76.
- Grace, O.M., Klopper, R.R., Smith, G.F., Crouch, N.R., Figueiredo, E., Rønsted, N. & Van Wyk, A.E.** 2013. A revised generic classification for *Aloe* (*Xanthorrhoeaceae* subfam. *Asphodeloideae*). *Phytotaxa* 76: 7–14. <http://dx.doi.org/10.11646/phytotaxa.76.1.2>
- Klopper, R.R. & Smith, G.F.** 2013. Aloes of the World: When, where and who? *Aloe* 50: 44–52.
- Klopper, R.R., Smith, G.F. & Demissew, S.** 2010. The Aloes of the World Project. Pp. 781–785 in: Van der Burgt, X., Van der Maesen, J. & Onana, J.-M. (eds.), *Systematics and conservation of African plants*. Proceedings of the XVIIIth triannual Congress of the AETFAT, Yaoundé, Cameroon. London: Kew Publishing, Royal Botanic Gardens, Kew.
- Klopper, R.R., Smith, G.F., Crouch, N.R., Grace, O.M. & Demissew, S.** 2013. Aloes of the World Project: Background and progress. Pp. 332–336 in: Beau, N., Dessein, S. & Robbrecht, E. (eds.), *African plant diversity, systematics and sustainable development*. Proceedings of the XIXth AETFAT Congress, held at Antananarivo, Madagascar, 26–30 April 2010. *Scripta Botanica Belgica* 50. Meise: National Botanic Garden of Belgium.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Prud'homme van Reine, W.F., Smith, G.F., Wiersema, J.H. & Turland, N.J. (eds.)** 2012. *International Code of Nomenclature for algae, fungi, and plants (Melbourne Code)* adopted by the Eighteenth International Botanical Congress Melbourne, Australia, July 2011. *Regnum Vegetabile* 154. Königstein: Koeltz Scientific Books.
- Smith, G.F.** 1991. Historic review of the taxonomy of *Chortolirion* Berger (*Asphodelaceae*: *Alooideae*). *Aloe* 28: 90–95.
- Smith, G.F.** 2013. The fascinating world of aloes, a truly African flagship plant group. *Aloe* 50: 6.
- Smith, G.F., Walters, M., Crouch, N.R. & Klopper, R.R.** 2008a. Aloes of the World: A comprehensive collaboration to consolidate knowledge on the genus *Aloe* L. *Aloe* 45: 19–20.
- Smith, G.F., Walters, M., Klopper, R.R. & Crouch, N.R.** 2008b. Aloes of the World: African Plants Initiative. An international web-based collaboration to promote scholarly research on *Aloe* L. *Bradleya* 26: 121–128.
- Treutlein, J., Smith, G.F., Van Wyk, B.-E. & Wink, M.** 2003. Phylogenetic relationships in *Asphodelaceae* (subfamily *Alooideae*) inferred from chloroplast DNA sequences (*rbcL*, *matK*) and from genomic fingerprinting. *Taxon* 52: 193–207. <http://dx.doi.org/10.2307/3647389>