



A new species of *Sporobolus* (Poaceae, Chloridoideae) from Trindade Island, Brazil, with comments on the distribution of the genus in the South Atlantic

HILDA M. LONGHI-WAGNER¹, RUY J.V. ALVES², NÍLBER G. DA SILVA³ & ALESSANDRA R. GUIMARÃES³

¹Departamento de Botânica, Instituto de Biociências, Universidade Federal do Rio Grande do Sul, Av. Bento Gonçalves 9500 prédio 43323, Agronomia, 91501-970, Porto Alegre, RS, Brasil. Email: hmlwagner@gmail.com

²Departamento de Botânica, Museu Nacional, Universidade Federal do Rio de Janeiro, Quinta da Boa Vista s. no., São Cristóvão, 20940-040, Rio de Janeiro, RJ, Brasil

³Pós-Graduação em Ciências Biológicas (Botânica), Museu Nacional, Universidade Federal do Rio de Janeiro, Quinta da Boa Vista s. no., São Cristóvão, 20940-040, Rio de Janeiro, RJ, Brasil. Email: nilberius@gmail.com

Abstract

Sporobolus nesiotioides (Poaceae) is described as a new species from Trindade Island, Brazil, using morphological and anatomical characters. The species has affinity with the extinct *S. durus* from Ascension Island. The presence of the genus on other tropical oceanic islands of the South Atlantic is discussed.

Resumo

Sporobolus nesiotioides (Poaceae) é descrita como nova espécie da Ilha da Trindade, Brasil, usando caracteres morfológicos e anatômicos. Esta espécie tem afinidade com o extinto *S. durus*, da Ilha de Ascenção. A presença do gênero em outras ilhas oceânicas do Atlântico Sul é discutida.

Introduction

The genus *Sporobolus* Brown (1810: 169) includes about 160 species of C4 grasses, mostly in the tropics but also in the subtropics and warm-temperate zones (Clayton & Renvoize 1986, Mabberley 2008). The genus is morphologically characterized by an inflorescence in a contracted or an open panicle (never racemose), late deciduous spikelets with persistent glumes, generally with only one antheicum with a 1-nerved palea similar to the lemma, and a caryopsis with a deliquescent pericarp (Boechat & Longhi-Wagner 1995).

Forty five species of *Sporobolus* were cited from East Tropical Africa (Clayton 1974) and 29 from West Tropical Africa (Clayton 1972). Clayton (1972) did not mention any species from oceanic islands, and cited *S. virginicus* (Linnaeus 1753: 63) Kunth (1829: 67) for sandy sea shores. Clayton (1974) mentioned *S. africanus* (Poiret 1810: 254) Robyns & Tournay (1955: 242) from the African continent and also recorded it as a weed on the Ascension Island. For Brazil, Boechat & Longhi-Wagner (1995) recognized 25 species and Longhi-Wagner (2013) 28 species, of which 13 are endemic. Several species of *Sporobolus* are also insular endemics, such as *S. durus* Brongn. in Duperrey (1829: 18) and *S. caespitosus* Kunth (1831: 423) from the Ascension Island (Lambdon *et al.* 2012) and the species described here, from Trindade Island, Brazil.

***Sporobolus nesiotioides* Longhi-Wagner, R.J.V. Alves & Nílber sp. nov.**, Fig. 1–4.

Type:—BRAZIL, Trindade Island, South Atlantic, 380 m elevation, 20° 30' 05.92" S, 29° 20' 10.17" W, 28 February 2012, R.J.V. Alves 8831 & N. G. Silva (holotype R!, isotype ICN!).

References

- Alves, R.J.V. (1998) *Ilha da Trindade & Arquipélago Martin Vaz – um Ensaio Geobotânico*. Serviço de Documentação da Marinha, Rio de Janeiro, 144 pp.
- Beauvois, A.M.F.P. de (1812) *Essai d'une Nouvelle Agrostographie*. Chez l'auteur, Paris, 310 pp.
- Boechat, S.C. & Longhi-Wagner, H.M. (1995) O gênero *Sporobolus* Poaceae: Chloridoideae no Brasil. *Acta Botanica Brasilica* 9: 21–86.
<http://dx.doi.org/10.1590/S0102-33061995000100002>
- Brown, R. (1810) *Prodromus Florae Novae Hollandiae et Insulae Van Diemen*. Richard Taylor & Son, London, 590 pp.
- Clarke, C.B. (1908) New genera and species of Cyperaceae. *Bulletin of Miscellaneous Information, Additional Series* 8: 1–196.
- Clayton, W.D. (1972) Gramineae. In : Hepper, F.N. (ed.). *Flora of East Tropical Africa* 3(2). Crown Agents of Overseas Governments and Administrations, pp. 349–512.
- Clayton, W.D. (1974) *Sporobolus*. In: Clayton, W.D. et al. (eds), *Flora of Tropical East Africa, Gramineae part 2*. Crown Agents of Overseas Governments and Administrations, pp. 353–388.
- Clayton, W.D. & Renvoize, S.A. (1986). *Genera Gramineum: grasses of the world*. Her Majesty's Stationery Office, London, 389 pp.
- Copeland, R. (1882) Ein besuch auf der Insel Trinidad im Südatlantischen Ocean. *Abhandlungen von Naturwissenschaftlichen Vereine zu Bremen* 7: 269–280.
- Cronk, Q.C.B. (1980) Extinction and survival in the endemic vascular flora of Ascension Island. *Biological Conservation* 17: 207–219.
[http://dx.doi.org/10.1016/0006-3207\(80\)90056-7](http://dx.doi.org/10.1016/0006-3207(80)90056-7)
- Duperrey, L.I. (1829) *Voyage autour du monde, exécuté par ordre du Roi, sur la corvette de Sa Majesté, La Coquille, pendant les années 1822, 1823, 1824 et 1825*, Vol. 2. Arthus Bertrand, Paris, 232 pp.
- D'Urville, M.J.D. (1830) *Voyage de découvertes de L'Astrolabe executé par ordre du Roi, pendant 1826-1827-1828-1829 sous le commandement de M. J. Dumont d'Urville, Capitaine de Vasseau. I - Histoire du Voyage*. J. Tastu, Paris, 716 pp.
- D'Urville, M.J.D. (1834) *Voyage de découvertes de L'Astrolabe executé par ordre du Roi, pendant 1826-1827-1828-1829 sous le commandement de M. J. Dumont d'Urville, Capitaine de Vasseau. II - Botanique*. J. Tastu, Paris, 167 pp.
- Gray, A. (2003) *Sporobolus durus*, IUCN 2011. *IUCN Red List of Threatened Species*, version 2011.2., Cambridge, U.K. Available from <http://www.iucnredlist.org> (Accessed: 20 December 2012).
- Gray, A., Peleme T. & Stroud, S. (2005) The conservation of the endemic vascular flora of Ascension Island and threats from alien species. *Oryx* 39:1–6.
<http://dx.doi.org/10.1017/S0030605305001092>
- Hattersley, P.W. (1986) Variations in photosynthetic pathway. In: Soderstrom, T.P., Hilu, K.W., Campbell, C.S. & Barkworth, M.E. (eds.). *Grass systematics and evolution*. Smithsonian Institution Press, Washington and London, pp. 49–64.
- Hattersley, P.W. & Watson, L. (1976) C4 grasses: an anatomical criterion for distinguishing between NADP-malic enzyme species and PCK or NAD-malic enzyme species. *Australian Journal of Botany* 24: 297–308.
<http://dx.doi.org/10.1071/BT9760297>
- Hemsley, W.B. (1884) *Report on the Scientific Results of the Voyage of H. M. S. Challenger*. Neill, Edinburgh , 332 pp.
- Keitt, B., Campbell, K., Saunders, A., Clout, M., Wang, Y., Heinz, R., Newton, K., Tershay B. (2011) The Global Islands Invasive Vertebrate Eradication Database: A tool to improve and facilitate restoration of island ecosystems. In: Veitch, C.R., Clout, M.N. & Towns, D.R. (eds.) *Island Invasives: eradication and management. Proceedings of the International Conference on Island Invasives in Auckland, New Zealand*. Gland, Switzerland, pp. 74–77.
- Kunth, K.S. (1829) *Révision des Graminées*, Vol 1. Gide, Paris, 175 pp.
- Kunth, K.S. (1831) *Révision des Graminées*, Vol 2. Gide, Paris, 666 pp.
- Lambdon, P.W., Stroud, S., Gray, A., Nissalo, M. & Renshaw, O. (2012) *Sporobolus caespitosus*. In: *IUCN Red List of Threatened Species. Version 2012.2*.
- Linnaeus, C. (1753) *Species Plantarum*. Impensis Laurentii Salvii, Holmiae, 560 pp.
- Longhi-Wagner, H.M. (2013) *Sporobolus, Lista de Espécies da Flora do Brasil*. Jardim Botânico do Rio de Janeiro, Rio de Janeiro. Available from: <http://www.floradobrasil.jbrj.gov.br> (Accessed: 20 June 2013).
- Mabberley, D.J. (2008) *Mabberley's plant book*. University Press, Cambrigde, 1040 pp.
- Maréchal, D. & Bouvet, S. (2002) *Dumont d'Urville – les tours du monde d'un Normand*. Service éducatif des Archives départementales de Calvados, Caen, 48 pp.
- Peterson, P.M. & Herrera-Arrieta, Y. (2001) A leaf blade anatomical survey of *Muhlenbergia* (Poaceae: Muhlenbergiinae). *Sida* 19: 469–506.

- Poiret, J.L.M. (1810) *Encyclopédie méthodique botanique, Supplement 1*. Agasse, Paris, 792 pp.
- Robyns, F.H.É.A.W. & Tournay, R.L.J.A. (1955) *Bulletin du Jardin Botanique de l'État à Bruxelles* 25: 242.
- Silva, N. G. da & Alves, R. J. V. (2011) The eradication of feral goats and its impact on plant biodiversity – a milestone in the history of Trindade Island, Brazil. *Rodriguesia* 62: 717–719.
- Simon, B.K. & Jacobs S.W.L. (1999) Revision of the Genus *Sporobolus* (Poaceae, Chloridoideae) in Australia. *Australian Systematic Botany* 12: 375–448.
<http://dx.doi.org/10.1071/SB97048>