

# IUCN SSC Bryophyte Specialist Group

2019 Report



Irene Bisang



Jacques van Rooy

## Co-Chairs

Irene Bisang <sup>(1)</sup>  
Jacques van Rooy <sup>(2)</sup>

## Red List Authority Coordinator

Ariel Bergamini <sup>(3)</sup>

## Location/Affiliation

- <sup>(1)</sup> Swedish Museum of Natural History, Stockholm, Sweden
- <sup>(2)</sup> South African National Biodiversity Institute, Pretoria, South Africa
- <sup>(3)</sup> Swiss Federal Research Institute WSL, Birmensdorf, Switzerland

## Number of members

29

## Social networks

Website:  
[https://eccbbryo.nhmus.hu/BSG\\_initial](https://eccbbryo.nhmus.hu/BSG_initial)

## Mission statement

The mission of the IUCN SSC Bryophyte Specialist Group is to promote the exploration of bryological diversity across all geographic scales and its long-term conservation.

## Projected impact for the 2017-2020 quadrennium

By the end of 2020, we expect that substantially more bryophyte species will be properly assessed or reassessed at the global scale, following the latest IUCN guidelines. We expect the European Red List of Threatened Bryophyte Species, to be published in autumn of 2019, will support priority making for conservation actions and inform policy decisions on biodiversity conservation in Europe. It will serve as a critical instrument to measure some aspects of the progress towards achieving the EU 2020 Biodiversity strategy. The European Committee for Conservation of Bryophytes (ECCB) currently works on defining 'Important Bryophyte Areas' for Europe, based on the European Red List data. Many members of the Bryophyte Specialist Group (BSG) and other bryologists are now, after having attended the IUCN Red Listing workshop (<https://www.bryology2019.com/iucn-red-listing-workshop/>), familiar with the IUCN methodology for Red List assessment and its application. Several work on assessing species for the global Red List, while others focus on national and regional levels.

## Targets for the 2017-2020 quadrennium

### Assess

Red List: (1) complete assessment of 1,800 European bryophytes and publication of a European bryophyte Red List; (2) Top 10 Initiative; (3) Red List assessment of all Swiss bryophytes; (4) Red List assessment of South African Pottiaceae; (5) critical terms necessary for the application of Red List categories and criteria refined to be suitable for clonal organisms, and consistently used in the assessments of European bryophytes.

Research activities: analysis of the endemic bryophyte elements of southern Africa (South Africa, Botswana, Namibia, Swaziland, Lesotho).

### Network

Capacity building: capacity building among BSG members through a training workshop on IUCN Red List methodology.

### Communicate

Communication: publish paper on the most strongly threatened African bryophytes.

## Activities and results 2019

### Assess

#### Red List

**i.** For assessment of European bryophytes, 1,817 species were considered, 1,796 assessments were completed, and 21 species were Not Assessed. The European Red List has been published (ISBN: 978-2-8317-1994-8, print version): Hodgetts N., et al. (2019). *A miniature world in decline: European Red List of Mosses, Liverworts and Hornworts*. Brussels, Belgium: IUCN. Assessments were conducted in the IUCN SIS database and published on the IUCN Red List website (<https://www.iucnredlist.org/>). Endemic species were assessed, mapped and published at the global level. (KSR #1, 2)

*Anthoceros neesi* belongs to the phylogenetically distinct hornwort lineage, it is one of the few endemic bryophytes in Central Europe, and is globally at risk for extinction

Photo: Lars Hedenäs



*Acroporium procerum* is a rare species in tropical south-east Asia that grows on peaty soil at higher elevations

Photo: Lars Hedenäs



*Tetrastichium virens* is an Ibero-Macaronesian endemic species that is assessed as Near Threatened

Photo: Lars Hedenäs

**ii.** The list of Top 10 African species has been published, but not yet assessed. *Sphagnum brasiliense* Warnst., endemic to a very small area in Brazil, was assessed, reviewed, and submitted to IUCN for publication. Contacts were established with bryologists in Chile, Borneo, US, Canada, Australia and Switzerland, who plan to work on Top 10 for South America, Southwest Asia, Oceania, North America, Australasia, and Europe. (KSR #1, 2)

**iii.** Approximately half of the 1,100 bryophyte species of Switzerland have been evaluated in 2019. The revision of the national Red List of threatened bryophytes of Switzerland makes good progress, the aims for 2019 have been reached and the list will be finished in 2020. The revision is mainly done by the Swiss bryophytes team ([www.swissbryophytes.ch](http://www.swissbryophytes.ch)). The BSG Red List Authority Coordinator has an advisory role. (KSR #1, 2)

**iv.** Student re-registered at Tshwane University of Technology (TUT) for 2019. Data gathering is still in progress and the student visited the Bolus Herbarium (BOL) for this purpose. (KSR #1, 2)

**v.** The terms 'generation length', 'mature individual' and 'severe fragmentation' were re-defined pragmatically to facilitate the use of the IUCN Red List categories and criteria for bryophyte assessments, and were published in a scientific paper (Bergamini, A., Bisang, I., Hodgetts, N., et al. (2019). Recommendations for the use of critical terms when applying IUCN red-listing criteria to bryophytes. *Lindbergia* 1:1–6. [DOI: 10.25227/linbg.01117]) and as a poster at an international scientific bryological meeting (Madrid 2019) and at the SSC Leaders' Meeting (Abu Dhabi 2019). (KSR #1, 2)

### Research activities

**i.** Student re-registered at Wits University for 2019. The databases were completed, and the student is working on a draft manuscript analysing endemism (Centres of Endemism and Areas of Endemism) in southern Africa. The student presented the poster 'Centres of endemism across mainland Africa and adjacent islands' by Phephu, N., Witkowski, E.T.F., Van Rooy, J., Sim-Sim, M.M., and Papo, L., at Island Biology 2019 – III International Conference on Island Evolution, Ecology, and Conservation, held 8–13 July 2019, at the University of La Réunion, Saint-Denis, La Réunion Island, France. (KSR #26, 43)

### Network

#### Capacity building

**i.** Twenty-nine bryologists participated in the workshop on IUCN Red Listing methodology. The IUCN Red Listing workshop was held as a pre-conference event (before the IAB iMOSS SEB 2019 Conference) on 7–8 July 2019, in Royal Botanic Garden in Madrid. Two certified facilitators from the IUCN Centre for Mediterranean Cooperation Malaga (Spain) and from the IUCN Red List Unit in Cambridge (UK) provided the training. Feedback by participants, both Bryophyte Specialist Group members and non-members, was altogether very positive (<https://www.bryology2019.com/iucn-red-listing-workshop/>). (KSR #5)

### Communicate

#### Communication

**i.** Paper published: van Rooy J., Bergamini, A. and Bisang, I. (2019). Fifty shades of red: Lost or threatened bryophytes in Africa. *Bothalia* 49(1):a2341. [DOI: 10.4102/abc.v49i1.2341]. (KSR #26, 43)

### Acknowledgements

The European Red List of bryophytes was funded by the European Commission (LIFE grant agreement No. IFE14PREBE001) and co-funded by the Ministry of the Environment of the Czech Republic and ArtDatabanken from the Swedish University of Agricultural Sciences. The IUCN Red Listing training was supported, either economically or in kind, by Mohamed bin Zayed Species Conservation Fund, the IUCN Centre for Mediterranean Cooperation Malaga, the IUCN Global Species Programme Red List Unit Cambridge, the Royal Botanic Garden (RBG, CSIC) Madrid, and the International Association of Bryologists. Jacques van Rooy, Ariel Bergamini and Irene Bisang acknowledge the continuous encouragement and financial support of their employers (South African National Biodiversity Institute, Swiss Federal Research Institute, Swedish Museum of Natural History). Special thanks to Jesus Muñoz (RBG) and Olivier Hasinger, former SSC Network Coordinator, for their facilitation of the Red Listing training.

### Summary of activities 2019

Components of Species Conservation Cycle: 3/5

Assess	6	
Network	1	
Communicate	1	

Main KSRs addressed: 1, 2, 5, 26, 43

KSR: Key Species Result