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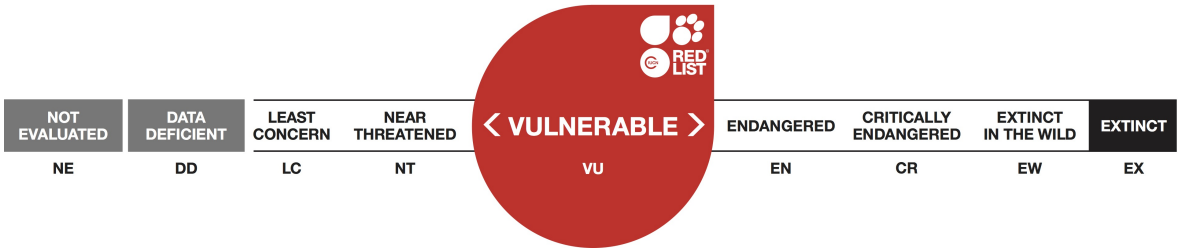
Scope: Global
Language: English

Trichoglossum walteri, Short-spored Earthtongue

Assessment by: Jordal, J.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Fungi	Ascomycota	Geoglossomycetes	Geoglossales	Geoglossaceae

Taxon Name: *Trichoglossum walteri* (Berk.) E.J.Durand

Synonym(s):

- *Geoglossum walteri* Berk.

Common Name(s):

- English: Short-spored Earthtongue

Taxonomic Source(s):

Index Fungorum Partnership. 2019. Index Fungorum. Available at: http://www.indexfungorum.org.

Taxonomic Notes:

This assessment is for *Trichoglossum walteri* sensu European and North American authors. The type is from Australia, however it is considered here that occurrences in Australasia and South America are different species compared to that found in Europe and North America. Therefore it could be that this European and North American taxa will need a different name.

The status of GBIF occurrences in North America compared to Europe is uncertain but for the time being we here assume that they are conspecific.

Assessment Information

Red List Category & Criteria: Vulnerable A2c+3c+4c ver 3.1

Year Published: 2019

Date Assessed: March 27, 2019

Justification:

In Europe *Trichoglossum walteri* is rare and strongly confined to semi-natural grasslands in the lowlands of northern Europe. Griffith *et al*. (2013) estimated a habitat loss of 90% over the last 75 years for the CHEG-fungi (grassland fungi of the groups Clavariaceae, *Hygrocybe* s.l., *Entoloma* and Geoglossaceae) as a whole in Western Europe (i.e. loss in seminatural grasslands, based on available information). These habitats are declining and becoming bad quality due to changing agricultural practices, development projects and pollution (airborne nitrogen deposition). In North America the species mainly grows in forests. GBIF lists about 600 occurrences in areas where the species is assumed to occur, and about 100 of these are in North America. The species is assumed to have a population of more than 20,000 mature individuals. In Europe, the habitat loss and population decline is assumed to be 30-50% in 50 years (past, present and future) (approximately three generations: one generation is assumed to be about 17 years). Habitat quality has also become impaired and the decline in population size over this time could be even higher. This decline in habitat is ongoing and expected to continue over the next 50 years. At a global scale (i.e. Europe + North America) the decline is also assumed to be >30% taking into account

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the relative size of the population reported in North America (GBIF 2019). The species meets the threshold for VU (A2c+3c+4c) in Europe (probably near EN), and at a global scale VU (A2c+3c+4c).

Geographic Range

Range Description:

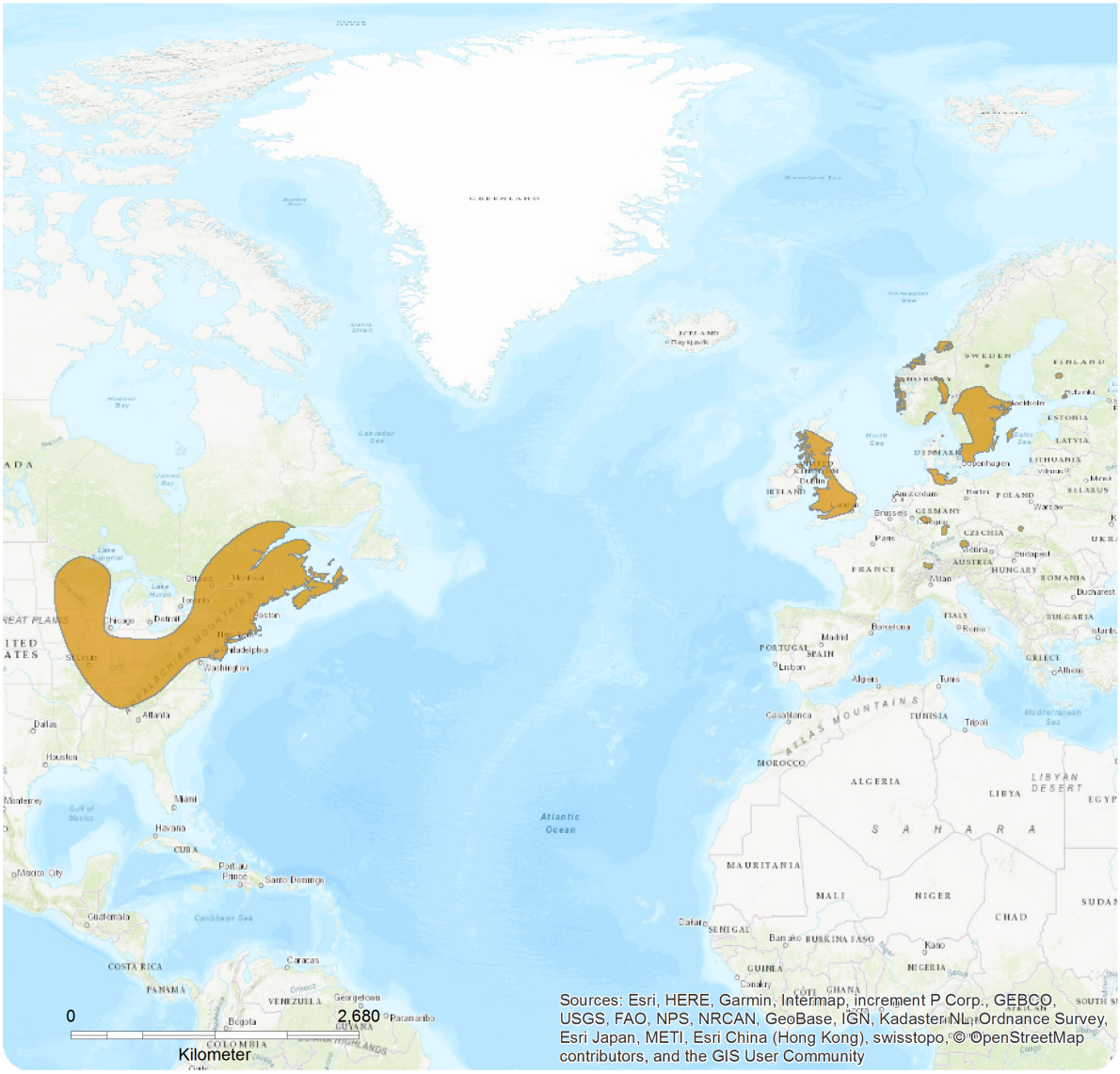
The species is known from Europe and North America. Occurrences outside this are assumed to belong to other species. In Europe it occurs in many countries in the lowland, coastal areas. In Scandinavia the species is found most often in the southern, coastal parts of Norway, Sweden and Denmark, in the boreonemoral and southern boreal vegetation zone, occasionally in middle boreal zone. The species occurs in North America (e.g. Grund and Harrison 1967, GBIF 2019). There is need of molecular methods to confirm distribution data. Currently we regard the European and North American records to be conspecific, but regard the other occurrences as probably related species, like the situation in some other earth tongues (see e.g. Hustad *et al*. 2013).

Country Occurrence:

Native: Austria; Belgium; Canada; Denmark; Estonia; Finland; France; Germany; Ireland; Netherlands; Norway; Russian Federation; Slovakia; Sweden; Switzerland; United Kingdom; United States

Distribution Map

Trichoglossum walteri

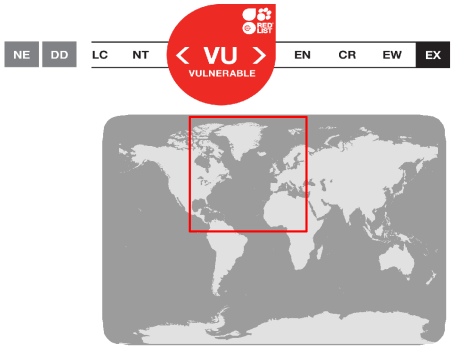


Range

Extant (resident)

Compiled by:

IUCN



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

According to GBIF (2019) there are totally about 600 occurrences, with about 100 in North America. Based on available information on trends in European seminatural grasslands, Griffith *et al*. (2013) estimated a habitat loss of 90% over the last 75 years for the CHEG-fungi (grassland fungi of Clavariaceae, *Hygrocybe s.l.*, *Entoloma* and Geoglossaceae) as a whole in Western Europe. According to the Food and Agriculture Organization of the United Nations (FAO), the area of grasslands in the EU declined by 12.8% over 13 years (1990-2003). Also other sources point to a habitat loss in seminatural grasslands of roughly 1% per year in Europe over a longer time, although the data quality is not always very good. A strong decline over 20 years is documented in Sweden (Nitare 1988). In North America the species occurs in forests and the population trend is here poorly known. In the seminatural grasslands of north European coastal lowland we assume a total habitat loss and population decline of nearly 50% over 50 years. Over the whole distribution range we assume a total habitat loss and population decline of 30-50% over the last 50 years. As the habitat quality is also declining (especially in the main habitat – seminatural grasslands), population decline could be higher.

The habitat quality of seminatural grasslands in Europe is also declining, strengthening the population decline. More than 75% of the grasslands habitats are in an unfavourable conservation status (http://ec.europa. eu/environment/nature/knowledge/ rep_habitats/index_en.htm#csa). This trend is ongoing and expected to continue in the future.

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

The European population of *Trichoglossum walteri* grows in mycologically rich but nutrient-poor semi-natural grasslands, often on acid soil in grasslands surrounded by heath. Semi-natural grasslands are rapidly disappearing due to changes in land use (see Threats and Population sections). In Norway, almost all localities of the species are in semi-natural grasslands and some few times in broadleaved forests (Jordal *et al*. 2016), and similar patterns are found in other European countries. In North America, habitat information is sparse; one record is from a wooded ravine in Nova Scotia (Grund and Harrison 1966). The nutrient strategy is unknown but it could have some kind of biotrophy or mycorrhiza, like waxcaps (Nitare 1988).

Systems: Terrestrial

Use and Trade

The species is not known to be used.

Threats **(see Appendix for additional information)**

Habitat destruction and abandoning are the main threats to seminatural grasslands including the calcareous ones. The most important process is probably overgrowing due to ceased grazing/mowing of old seminatural grasslands as part of intensification of agriculture. Further modern cultivation methods like use of fertilizers, pesticides and ploughing. Also in some places changed land use with the construction of roads, industrial areas, settlements etc. Airborne nitrogen deposition is another significant threat. Decline is expected to continue, as at least the areas of seminatural grasslands are of

little economic importance in modern agriculture. Most CHEG grasslands (see Population and trends) are among types assessed as VU, EN or CR in the EU Red List of habitats (Jansen *et al*. 2016). There is little information on threats in North America.

Conservation Actions **(see Appendix for additional information)**

The habitats should be protected against destruction due to intensification of agriculture or development plans. The maintaining of seminatural grasslands demands yearly grazing or mowing. If grazing by heavy animals destroys part of the soil, light animals like sheep should be recommended. Habitat conservation by governmental support to traditional agricultural practices is most important, this exists in many countries to maintain extensive agricultural areas, and should be extended to larger areas than today. The species is suggested as a priority species in Norway (Jordal 2013).

Further ecological research is needed to clarify the nutrient strategy of grassland fungi. Management plans are needed. Habitat trends should be monitored.

Credits

Assessor(s): Jordal, J.

Reviewer(s): Ainsworth, A.M. & Mešić, A.

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Bibliography

Artsdatabanken. 2015. Rødliste for arter [2015 Red List of Norwegian Species online database]. Available at: https://www.artsdatabanken.no/Rodliste.

FinBIF. 2018. Finnish Biodiversity Information Facility/FinBIF. Finnish Museum of Natural History Luomus, Helsinki. Available at: http://tun.fi. (Accessed: 6 March 2018).

Food and Agricultural Organisation of the United Nations. 2006. FAO Statistical Yearbook – FAOSTAT.

Foreningen til svampekundskabens fremme. 2019. Danmarks svampeatlas. Available at: https://svampe.databasen.org/. (Accessed: 2019).

GBIF. 2019. Global Biodiversity Information Facility (GBIF) data portal. Collection of online herbarium specimens. Available at: http://data.gbif.org.

German Mycological Society. 2019. Pilzen Deutschlands. Available at: http://www.pilze-deutschland.de/.

Griffith, G.W., Gamarra, J.P., Holden, E.M., Mitchel, D., Graham, A., Evans, D.A. et al. 2013. The international conservation importance of welsh 'waxcap' grasslands. *Mycosphere* 4: 969–984.

Grund, D.W. and Harrison, K.A. 1967. Nova Scotian fungi. Geoglossaceae. *Can. J. Bot.* 45: 1625-1641.

Hustad, V.P., Miller, A.N., Dentinger, B.T.M. and Cannon, P.F. 2013. Generic circumscriptions in Geoglossomycetes. *Persoonia* 31: 101–111.

IUCN. 2019. The IUCN Red List of Threatened Species. Version 2019-2. Available at: www.iucnredlist.org. (Accessed: 04 July 2019).

Janssen, J.A.M., Rodwell, J.S., García Criado, M., Gubbay, S., Haynes, T., Nieto, A., Sanders, N., Landucci, F., Loidi, J., Ssymank, A., Tahvanainen, T., Valderrabano, M., Acosta, A., Aronsson, M., Arts, G., Attorre, F., Bergmeier, E., Bijlsma, R.-J., Bioret, F., Biță-Nicolae, C., Biurrun, I., Calix, M., Capelo, J., Čarni, A. Poulos, P., Essl, F., Gardf, Chytrý, M., Dengler, J., Dimojell, H., Gigante, D., Giusso del Galdo, G., Hájek, M., Jansen, F., Jansen, J., Kapfer, J., Mickolajczak, A., Molina, J.A., Molnár, Z., Paternoster, D., Piernik, A., Poulin, B., Renaux, B., Schaminée, J.H.J., Šumberová, K., Toivonen, H., Tonteri, T., Tsiripidis, I., Tzonev, R. and Valachovič, M. 2016. *European Red List of Habitats. Part 2. Terrestrial and freshwater habitats*. European Union, Luxembourg.

Jordal, J.B. 2013. Naturfagleg utgreiing om truga beitemarkssoppar, med forslag til utval av prioriterte artar [On threatened grassland fungi, with proposal for the selection of priority species]. Rapport J.B. Jordal nr. 2-2013.

Jordal, J.B., Evju, M., and Gaarder, G. 2016. Habitat specificity of selected grassland fungi in Norway. *Agarica* 37: 5-32.

NBN. 2019. NBN Atlas. UK National Biodiversity Network (NBN) Internet Atlas. National Biodiversity Network, Nottingham Available at: http://www.nbn.org.uk/. (Accessed: 2019).

Nitare, J. 1988. Jordtungor, en svampgrupp på tillbakagång i naturliga fodermarker [Earth tongues, a declining group of fungi in seminatural grasslands]. *Svensk Bot. Tidskr.* 82: 341-368.

NMV. 2019. Verspreidingsatlas Paddenstoelen. Available at: https://www.verspreidingsatlas.nl. (Accessed: 2019).

SLU. ArtDatabanken. Available at: http://artfakta.artdatabanken.se.

Swiss Federal Institute for Forest, Snow and Landscape Research. 2019. SwissFungi. Available at: https://swissfungi.wsl.ch/de.html. (Accessed: 2019).

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External Resources

For Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.4. Forest - Temperate	-	Suitable	-
4. Grassland -> 4.4. Grassland - Temperate	-	Suitable	-

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	-	-	-
1. Residential & commercial development -> 1.2. Commercial & industrial areas	Ongoing	-	-	-
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.3. Agro-industry grazing, ranching or farming	Ongoing	-	-	-
4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	-	-	-
9. Pollution -> 9.5. Air-borne pollutants -> 9.5.1. Acid rain	Ongoing	-	-	-

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.3. Habitat & natural process restoration
4. Education & awareness -> 4.3. Awareness & communications
6. Livelihood, economic & other incentives -> 6.4. Conservation payments

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

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Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
2. Conservation Planning -> 2.2. Area-based Management Plan
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Habitats and Ecology
Generation Length (years): 17

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The IUCN Red List Partnership

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