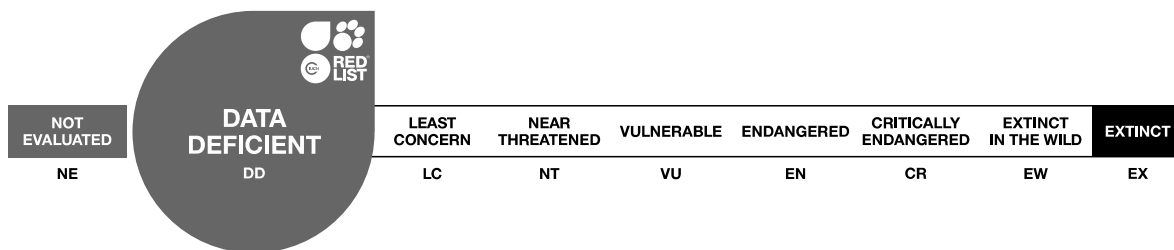


Hypocreodendron sanguineum

Assessment by: Sánchez, R., Ranieri, C., Pelissero, D., Niveiro, N., Maubet, Y., Hernandez Caffot, M.L., Martínez, M. & Torres, D.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Fungi	Ascomycota	Sordariomycetes	Xylariales	Xylariaceae

Scientific Name: *Hypocreodendron sanguineum* Henn.

Synonym(s):

- *Discoxylaria mirmecophila* [orth. err.] J.C. Lindq. & J.E. Wright
- *Discoxylaria myrmecophila* J.C. Lindq. & J.E. Wright

Taxonomic Source(s):

Index Fungorum Partnership. 2023. Index Fungorum. Available at: <http://www.indexfungorum.org>.

Assessment Information

Red List Category & Criteria: Data Deficient [ver 3.1](#)

Year Published: 2023

Date Assessed: June 19, 2023

Justification:

Hypocreodendron sanguineum is saprobic on waste material of ant nests, presumably of some species of the genera *Atta* and *Acromyrmex*. The fungus has been found predominantly associated with waste piles outside the nests in areas with temperate to subtropical climates that go through a drier stage during the year, with most records in or near urban areas. Even though it could occur along its hosts' distribution, it has only been reported a small number of times. With a long history of mycological studies in Latin America and with a striking fungal appearance (stromata 2.5 cm high with a red apical disc) this fungus has only been recorded in 13 sites, mostly in Mexico and Argentina, but also in Brazil, Guatemala, and Uruguay. The habitat of this fungus could be under high levels of disturbance because of the destruction of the ant nests primarily by pesticides and secondarily by the construction of roads and firewalls. Further targeted surveys within the range of its ant hosts will be required to better understand the status and trend of *H. sanguineum*, as well as to delimit its true range. Without such further information it is not possible to accurately assess its extinction risk. Therefore, the present assessment is Data Deficient (DD).

Geographic Range

Range Description:

This species occurs around waste piles of ants of the genera *Acromyrmex* and *Atta*. It has been registered in 13 localities: in Bahía Blanca, La Plata and Capital Federal (Buenos Aires province - Argentina); Alta Gracia, Ischilín, and Sierra Chica (Córdoba Province - Argentina); Porto Alegre (Brazil); San Marcos La Laguna (Guatemala); Jalisco, Morelos, Nuevo León and Veracruz (Mexico); and in Montevideo (Uruguay) (Gerrero 1986; Lindquist and Wright 1959, 1964; López and García 2008; Medel *et al.* 2008; mushroomobserver.org 2017; Pérez-Silva 1974). The species is expected to occur along its

hosts' distributions, which range from the south of the USA to the north of Argentinian Patagonia. However, it seems that the species requires specific environmental niches (Farji-Brener *et al.* 2016).

Country Occurrence:

Native, Extant (resident): Argentina; Brazil; Guatemala; Mexico; Uruguay

Distribution Map

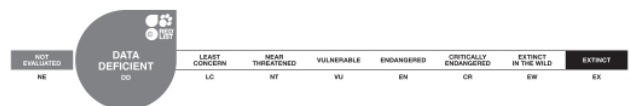


Legend

■ EXTANT (RESIDENT)

Compiled by:

IUCN 2022



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



Population

Although both associated genera of ants are distributed globally, *Hypocreodendron sanguineum*, based on current knowledge, occurs only in the Americas. Since its first description 125 years ago, the fungus has been registered in 13 sites. Notably, in Bahía Blanca, where it was originally described, after many years of mycological studies it has only been seen three times. In Mexico, it is also considered a rare species because of its low frequency of appearance (Medel *et al.* 2008). The habitat of this fungus could be under high levels of disturbance because of the destruction of the ant nests, primarily by pesticides and secondarily through the construction of roads and firewalls. Based on the paucity of data on its habitat and ecology, it is not possible to better understand the number of possible sites that the species may occupy, nor its overall population size.

Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

Hypocreodendron sanguineum is saprobic on waste material of ant nests, presumably of some species of the genera *Atta* and *Acromyrmex*. The fungus has been found mostly associated with waste piles outside of the nests of ants that live in areas with temperate to subtropical climates, which go through a drier stage at least once during the year, and most of them in or near urban areas. It is expected to occur along its hosts' distribution but only in areas that present a relatively dry period, and other, as yet unclear, environmental characteristics.

Systems: Terrestrial

Use and Trade (see Appendix for additional information)

No use/trade is known

Threats (see Appendix for additional information)

This infrequent fungus is always associated with ants, so the threats they suffer from will impact the fungus. It was found that the breaking up of soils, for example, for the construction of roads or firewalls, negatively affects the diversity of ants (Tizón 2011). Additionally, these insects cause high levels of destruction to crops and gardens, so they are persecuted with insecticides and pesticides (Lucía and Battaglini 2006).

Conservation Actions

It is very difficult to propose actions to promote the conservation of a fungal species associated with an insect considered an important threat to crops, but when the ecological relation of the fungus with the ant is better understood they may be established. An increased knowledge about the distribution of the species is needed, especially regarding its relationship with the ants: for instance, if it is specifically associated with some species of *Acromyrmex* and *Atta* or not, or if its relationship with them is not specific but instead a result of their habits influenced by the environmental conditions. Also, it is important to better understand the possible threats.

Credits

Assessor(s): Sánchez, R., Ranieri, C., Pelissero, D., Niveiro, N., Maubet, Y., Hernandez Caffot, M.L., Martínez, M. & Torres, D.

Reviewer(s): Drechsler-Santos, E., Martins da Cunha, K. & Minter, D.

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External Resources

For [Supplementary Material](#), and 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?
4. Grassland -> 4.4. Grassland - Temperate	-	Suitable	-
14. Artificial/Terrestrial -> 14.4. Artificial/Terrestrial - Rural Gardens	-	Suitable	-
14. Artificial/Terrestrial -> 14.5. Artificial/Terrestrial - Urban Areas	-	Suitable	-

Plant and Fungal growth forms

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

Plant and Fungal growth forms
M. Fungus

Threats

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

Threat	Timing	Scope	Severity
4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.3. Loss of mutualism	
6. Human intrusions & disturbance -> 6.3. Work & other activities	Ongoing	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.3. Loss of mutualism	
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.3. Herbicides and pesticides	Ongoing	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.3. Loss of mutualism	

Research Needed

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

Research Needed	Notes
1. Research -> 1.2. Population size, distribution & trends	-
1. Research -> 1.3. Life history & ecology	-
1. Research -> 1.5. Threats	-
1. Research -> 1.6. Actions	-
3. Monitoring -> 3.1. Population trends	-

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