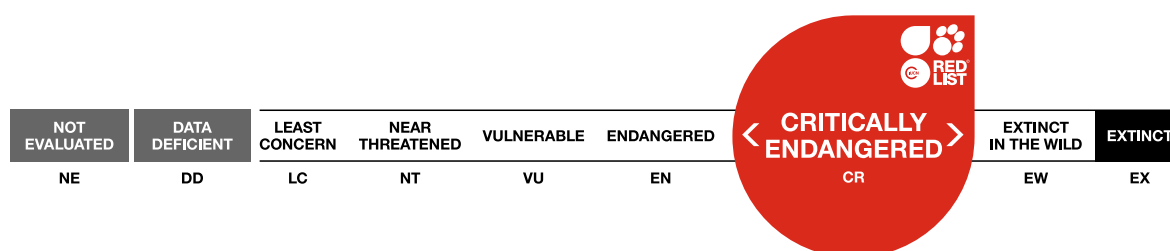




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## *Chirothrips azoricus*

Assessment by: Nunes, R. & Borges, P.A.V.



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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Thysanoptera	Thripidae

**Scientific Name:** *Chirothrips azoricus* zur Strassen, 1981

## Assessment Information

**Red List Category & Criteria:** Critically Endangered B1ab(i,ii,iii,v)+2ab(i,ii,iii,v) [ver 3.1](#)

**Year Published:** 2020

**Date Assessed:** March 30, 2018

### Justification:

*Chirothrips azoricus* is endemic to São Miguel (Azores, Portugal). It has a very small Extent of Occurrence (EOO = 8 km<sup>2</sup>) and Area of Occupancy (AOO = 8 km<sup>2</sup>). There is a continuing decline in the EOO, AOO, extent and quality of habitat as well as the number of mature individuals as a result of the invasions of non-native plants; and, based on this threat, the species occurs only at one location. Therefore, the species is assessed as Critically Endangered (CR). We suggest as future conservation measures: (1) regular monitoring of the species; and (2) control of invasive species, namely *Hedychium gardnerianum* and *Clethra arborea*.

## Geographic Range

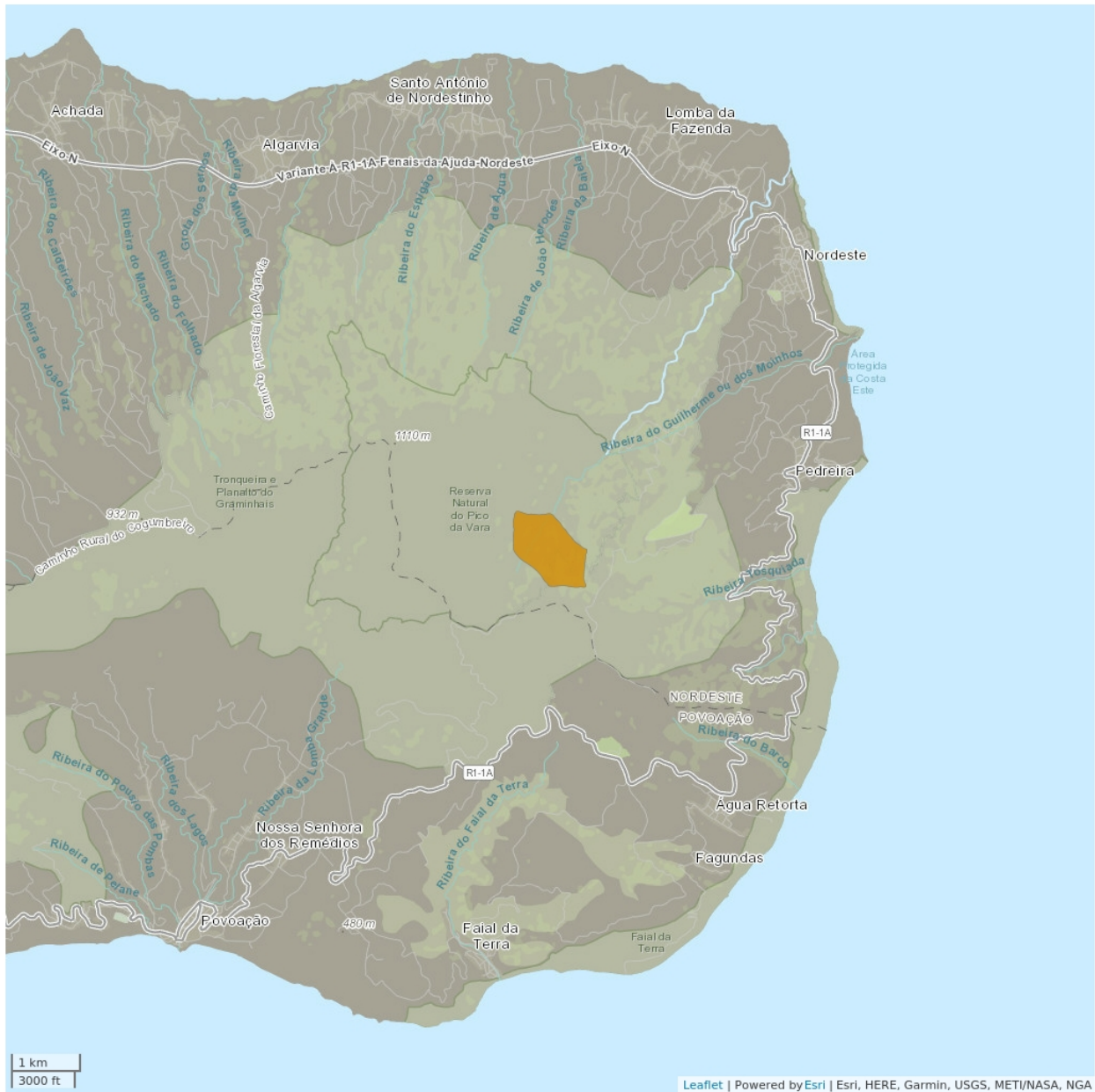
### Range Description:

*Chirothrips azoricus* is a single-island endemic thrips species restricted to S. Miguel island (Azores, Portugal) (Borges *et al.* 2010), known from the Natural Forest Reserve of Pico da Vara (Tronqueira). The Extent of Occurrence (EOO) is 8 km<sup>2</sup> and the maximum estimated Area of Occupancy (AOO) is 8 km<sup>2</sup>.

### Country Occurrence:

**Native, Extant (resident):** Portugal (Azores)

# Distribution Map

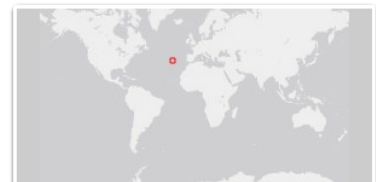
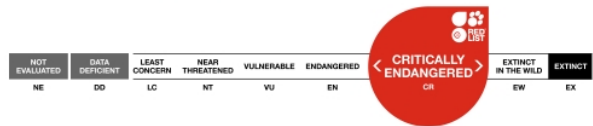


## Legend

■ EXTANT (RESIDENT)

Compiled by:

Azorean Biodiversity Group 2018



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



## Population

The species is rare and only known from a single subpopulation. A continuing decline in the number of mature individuals is inferred from the ongoing habitat degradation due to invasions of alien plants (*Hedychium gardnerianum*, *Clethra arborea*).

**Current Population Trend:** Decreasing

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

The ecology and traits of this species are unknown, but the larvae of known species of the genus *Chirothrips* develop only within the florets of Poaceae (Minaei and Mound 2010). This species occurs in the hyper-humid Azorean native forests, surrounded by plantations of exotic trees (*Cryptomeria japonica*) and under threat from invasive plant species.

**Systems:** Terrestrial

## Threats (see Appendix for additional information)

In the past, the species has probably strongly declined due to changes in habitat size and quality. The most important ongoing threat to this species is the spread of invasive plants (*Hedychium gardnerianum* and *Clethra arborea*), which are changing the habitat structure and promoting the spread of other plants. Based on Ferreira *et al.* (2016) the habitat will decline as a consequence of climate change (increasing number of droughts and habitat shifting and alteration).

## Conservation Actions (see Appendix for additional information)

The species is not protected by regional law, but its habitat is in a regionally protected area (S. Miguel Natural Park). The São Miguel Natural Park administration is currently starting control measures of the invasive plants. A LIFE PRIOLO project started with a restoration of degraded habitats increasing the area of pristine forest. A habitat management plan is needed, though, and one is anticipated to be developed during the coming years. Further research is needed into its ecology and life history in order to find extant specimens in additional natural forest areas of the S. Miguel island and to obtain information on population size, distribution and trends. It is also necessary to develop an area-based management plan and a monitoring plan for the invertebrate community in this habitat in aid in the production of a potential species recovery plan. Monitoring every ten years using the BALA protocol will inform about habitat quality (see e.g. Gaspar *et al.* 2011).

## Credits

**Assessor(s):** Nunes, R. & Borges, P.A.V.

**Reviewer(s):** Russell, N.

## Bibliography

Borges, P.A.V., Costa, A., Cunha, R., Gabriel, R., Gonçalves, V., Martins, A.F., Melo, I., Parente, M., Raposeiro, P., Rodrigues, P., Santos, R.S., Silva, L., Vieira, P. and Vieira, V. 2010. *A list of the terrestrial and marine biota from the Azores*. Princípiã, Cascais.

Ferreira, M.T., Cardoso, P., Borges, P.A.V., Gabriel, R., Azevedo, E.B., Reis, F., Araújo, M.B. and Elias, R.B. 2016. Effects of climate change on the distribution of indigenous species in oceanic islands (Azores). *Climate Change* 138(3-4): 603-615.

Gaspar, C., Gaston, K.J., Borges, P.A.V. and Cardoso, P. 2011. Selection of priority areas for arthropod conservation in the Azores archipelago. *Journal of Insect Conservation* 15: 671–684.

IUCN. 2020. The IUCN Red List of Threatened Species. Version 2020-3. Available at: [www.iucnredlist.org](http://www.iucnredlist.org). (Accessed: 10 December 2020).

Minaei, K. and Mound, L.A. 2010. Grass-flower thrips of the genus *Chirothrips* (Thysanoptera: Thripidae), with a key to species from Iran. *Zootaxa* 2411(1): 33-43.

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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?
1. Forest -> 1.4. Forest - Temperate	Resident	Suitable	Yes

### Threats

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

Threat	Timing	Scope	Severity	Impact Score
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Clethra arborea)	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Hedychium gardnerianum)	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Future	Whole (>90%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects		
11. Climate change & severe weather -> 11.2. Droughts	Future	Whole (>90%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects		

### Conservation Actions in Place

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

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: Yes
Systematic monitoring scheme: Yes
In-place land/water protection
Occurs in at least one protected area: Yes

## Conservation Actions Needed

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

<b>Conservation Action Needed</b>
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control
2. Land/water management -> 2.3. Habitat & natural process restoration

## Research Needed

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

<b>Research Needed</b>
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
2. Conservation Planning -> 2.2. Area-based Management Plan
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

## Additional Data Fields

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 8
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 8
Continuing decline in extent of occurrence (EOO): Yes
Number of Locations: 1
Continuing decline in number of locations: No
Lower elevation limit (m): 500
Upper elevation limit (m): 700
<b>Population</b>
Continuing decline of mature individuals: Yes
Extreme fluctuations: Unknown
Population severely fragmented: No

<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes



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