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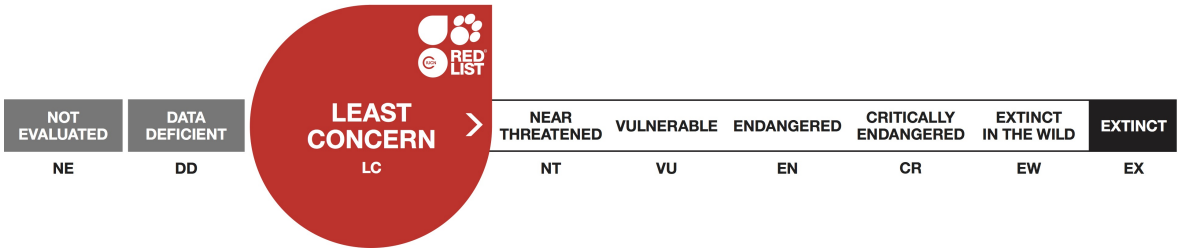
Scope: Global
Language: English

Phlogophora interrupta, Owlet Moth

Assessment by: Vieira, V. & Borges, P.A.V.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Lepidoptera	Noctuidae

Taxon Name: *Phlogophora interrupta* (Warren, 1905)

Synonym(s):

- *Brotolomia periculosa interrupta* Warren, 1905
- *Chutapha wollastoni interrupta* Warren
- *Phlogophora jarmilae* (Saldaitis & Ivinskis, 2006)
- *Phlogophora wollastoni* B. Baker

Common Name(s):

- English: Owlet Moth, Underwing Moth

Taxonomic Source(s):

De Jong, Y., Verbeek, M., Michelsen, V., Bjørn, P.P., Los, W., Steeman, F., Bailly, N., Basire, C., Chylarecki, P., Stloukal, E., Hagedorn, G., Wetzel, F.T., Glöckler, F., Kroupa, A., Korb, G., Hoffmann, A., Häuser, C., Kohlbecker, A., Müller, A., Güntsch, A., Stoev, P. and Penev, L. 2014. Fauna Europaea – all European animal species on the web. *Biodiversity Data Journal* 2: e4034. DOI: 10.3897/BDJ.2.e4034.

Assessment Information

Red List Category & Criteria: Least Concern ver 3.1

Year Published: 2018

Date Assessed: March 19, 2017

Justification:

Phlogophora interrupta is an endemic species present in Flores, Faial, Pico, Graciosa, S. Jorge, Terceira, S. Miguel and Santa Maria islands (Azores, Portugal) (Borges *et al.* 2010). It has a relatively large area of occupancy (AOO = 312 km²) and a large extent of occurrence (EOO = 37,624 km²). The species can be found in native forest fragments, but also in the habitats which are dominated by forest plantations and patches of semi-natural and exotic vegetation. Based on Ferreira *et al.* (2016) the habitat will decline as a consequence of climate change (increasing number of droughts). The species is assessed as Least Concern (LC) due to the widespread distribution, having also a high range of altitude occupancy (100-1000 m).

Geographic Range

Range Description:

Phlogophora interrupta is an endemic species present in Flores, Faial, Pico, Graciosa, S. Jorge, Terceira, S. Miguel and Santa Maria islands (Azores, Portugal) (Borges *et al.* 2010), occurring mostly in native forest (Vieira *et al.* 1998), specially of the central group of the Azorean archipelago (e.g. Meyer 1991), being known from nine Natural Forest Reserves: Caldeiras Funda e Rasa and Morro Alto e Pico da Sé (Flores);

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Caldeira do Faial and Cabeço do Fogo (Faial); Pico Pinheiro (S. Jorge); Caldeira Guilherme Moniz and Caldeira Sta. Bárbara e Mistérios Negros (Terceira), Graminhais (S. Miguel), Pico Alto (S. Maria). The extent of occurrence (EOO) is *ca* 38,000 km² and the maximum estimated area of occupancy (AOO) is 312 km².

Country Occurrence:

Native: Portugal (Azores)

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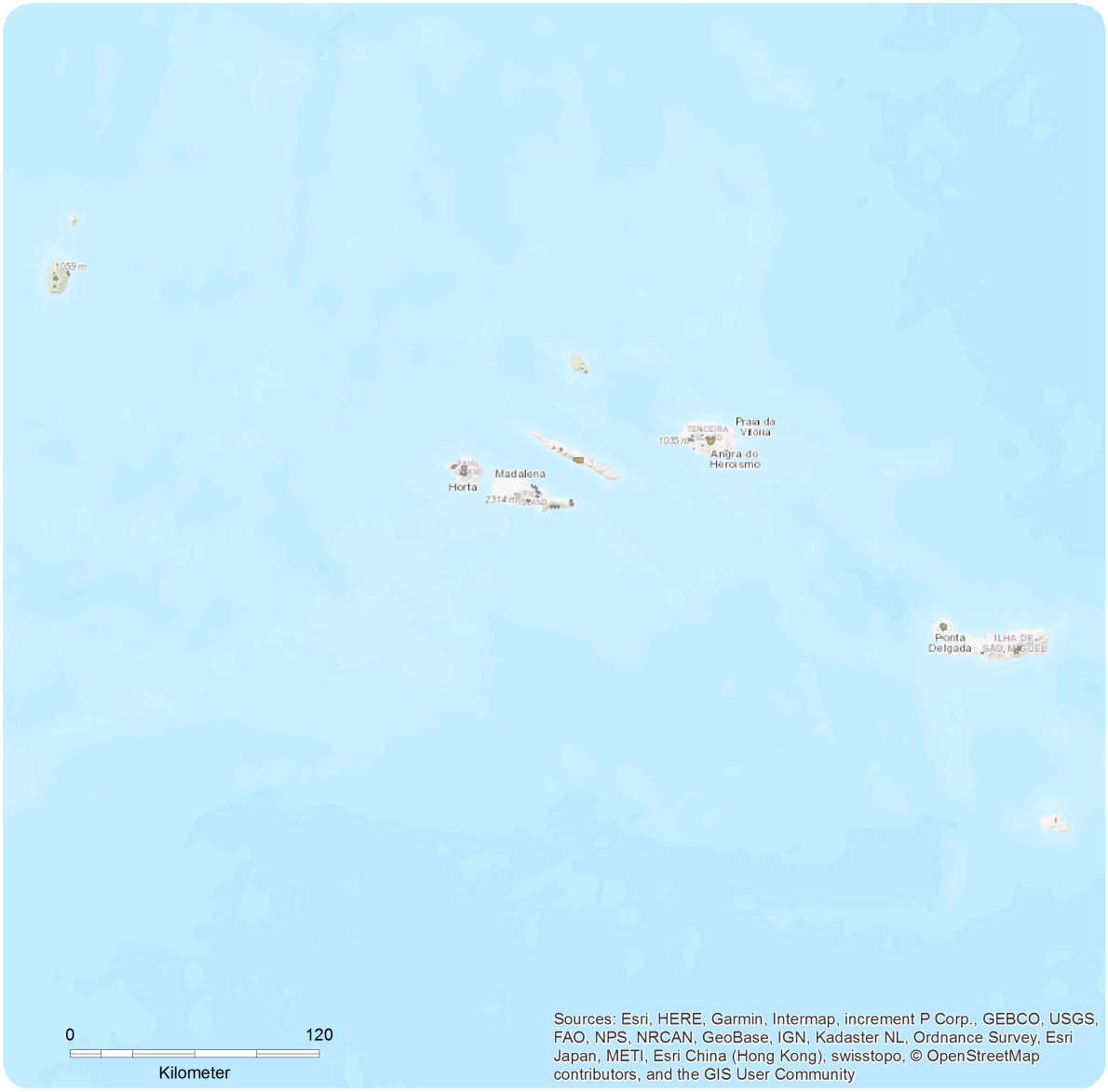
Distribution Map

Phlogophora interrupta



Range

Extant (resident)

Compiled by:

Paulo Borges

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

The species is a widespread and abundant species in native and naturalised vegetation at medium and high elevations of the Azorean islands (with exception of Corvo island). The adults are rare at lower elevations (Vieira *et al.* 1998). The species has currently a stable population.

Current Population Trend: Stable

Habitat and Ecology (see Appendix for additional information)

This species occurs particularly in typical medium to highland biotopes with native grass and moss on Azorean islands (despite some registered records at lower altitudes). The adults of *P. interrupta* are captured in light traps from April to November, with a maximum of individuals in summer (e.g., Santa Bábara, Terceira, in end of july; Vieira *et al.* 1998). Primarily the larvae feed on various ferns (e.g. *Dryopteris* spp*., Osmunda regalis*) and also on *Rubus* spp. (Wagner 2015). Possibly, the larvae are a specialized herbivore, and the adults have three generations per year. Altitudinal range: 100-1000 m.

Systems: Terrestrial

Use and Trade

This species is not utilised.

Threats (see Appendix for additional information)

In the past, the species has probably strongly declined due to changes in habitat size and quality, mostly the creation of pastures (Triantis *et al.* 2010). Currently the species is under threat due to degradation of the habitat by cattle but also invasive plants *Pittosporum undulatum* and *Hedychium gardnerianum* are changing some of the areas and decreasing the quality of the habitat. These changes are decreasing the relative cover of endemic plants and changing the soil cover (decreasing the cover of bryophytes and ferns) with the expansion of other plants and potential threats to the species. Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change (increasing number of droughts and habitat shifting & alteration).

Conservation Actions (see Appendix for additional information)

The species is not protected by regional law. Its habitat is in regionally protected areas (Natural Parks of Faial, Flores, Graciosa, Pico, S. Jorge, Terceira, S. Miguel and Sta. Maria). Further research is needed into its ecology and life history in order to learn about the ecological requirements of the species and the feeding substrate of the larva, and find extant specimens. Degraded habitats should be restored and a strategy needs to be developed to address the future threat by climate change. It is necessary a monitoring plan for the invertebrate community in the habitat in order to contribute to the conservation of this species. A habitat management plan is needed and anticipated to be developed during the coming years. Monitoring every ten years using the BALA protocol will inform about habitat quality (see e.g. Gaspar *et al*. 2010).

Credits

Assessor(s): Vieira, V. & Borges, P.A.V.

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Reviewer(s): Danielczak, A.

Contributor(s): Nunes, R., Lamelas-López, L. & Amorim, I.R.

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. & Vieira, V. 2010. *A list of the terrestrial and marine biota from the Azores*. Princípia, 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: 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. 2018. The IUCN Red List of Threatened Species. Version 2018-1. Available at: www.iucnredlist.org. (Accessed: 28 June 2018).

Meyer, M. 1991. Les Lépidoptères de la région macaronésienne, II. Liste des Macro-Hétérocères observés en juillet-août 1990 aux Açores (Lepidoptera: Geometridae, Sphingidae, Noctuidae). *Linneana Belgica* 13(3): 117–134.

Triantis, K.A., Borges, P.A.V., Ladle, R.J., Hortal, J., Cardoso, P., Gaspar, C., Dinis, F., Mendonça, E., Silveira, L.M.A., Gabriel, R., Melo, C., Santos, A.M.C., Amorim, I.R., Ribeiro, S.P., Serrano, A.R.M., Quartau, J.A. and Whittaker, R.J. 2010. Extinction debt on oceanic islands. *Ecography* 33: 285-294.

Vieira, V., Gomes de Araújo, G. & Tavares, G. 1998. Seasonal distribution and sex ratio of eleven noctuid species (Insecta, Lepidoptera) captured in blacklight traps on Terceira Island (Azores). *Boletim do Museu Municipal do Funchal* 5: 495-509.

Wagner, W. 2015. A contribution to the knowledge of the larval ecology of the Azorean Phlogophora (Lepidoptera: Noctuidae) with taxonomic notes on the complex of P. interrupta (P. interrupta jarmilae Saldaitis & Ivinskis, 2006, stat. rev.). *Nachrichten des Entomologischen Vereins Apollo, Neue Folge* 36(2/3): 80–92.

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Disclaimer

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	Resident	Suitable	Yes
3. Shrubland -> 3.4. Shrubland - Temperate	Resident	Suitable	Yes
4. Grassland -> 4.4. Grassland - Temperate	Resident	Suitable	Yes
0. Root -> 16. Introduced vegetation	Breeding	Marginal	-

Threats

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

Threat	Timing	Scope	Severity	Impact Score
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 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
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 2. Species Stresses -> 2.1. Species mortality		
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.1. Small-holder plantations	Ongoing	Minority (50%)	Causing/could cause fluctuations	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Minority (50%)	Causing/could cause fluctuations	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Hedychium gardnerianum)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		

8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Pittosporum undulatum)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

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

Conservation Actions in Place
In-Place Research, Monitoring and Planning
Systematic monitoring scheme: Yes
In-Place Land/Water Protection and Management
Conservation sites identified: Yes, over part of range
Occur in at least one PA: Yes
Percentage of population protected by PAs (0-100): 81-90
In-Place Education
Subject to recent education and awareness programmes: Yes

Conservation Actions Needed

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

Conservation Actions Needed
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
4. Education & awareness -> 4.1. Formal education
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.3. Sub-national level

Research Needed

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

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology

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Research Needed
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 312
Continuing decline in area of occupancy (AOO): No
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 38000
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 35
Continuing decline in number of locations: Yes
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 100
Upper elevation limit (m): 1000
Population
Continuing decline of mature individuals: No
Population severely fragmented: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: No
Generation Length (years): 0.5
Movement patterns: Not a Migrant

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The IUCN Red List Partnership

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