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Scope: Global
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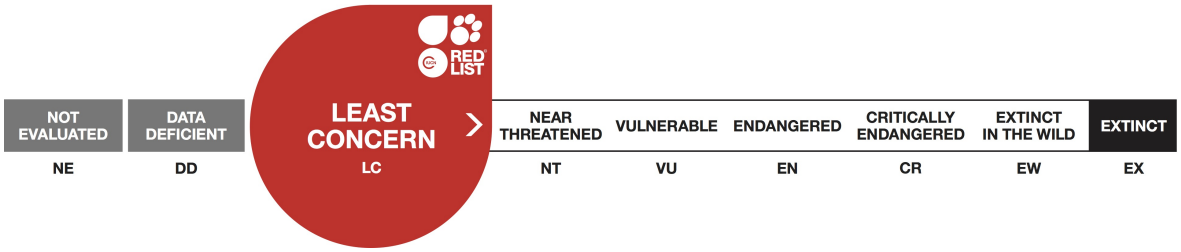
Eudonia interlinealis, Moth

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



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Lepidoptera	Crambidae

Taxon Name: *Eudonia interlinealis* (Warren, 1905)

Synonym(s):

- *Eudonia angustea* (Curtis, 1827)
- *Scoparia angustea* Stph. 1905
- *Scoparia interlinealis* Warrent, 1957

Common Name(s):

- English: Moth

Assessment Information

Red List Category & Criteria: Least Concern ver 3.1

Year Published: 2018

Date Assessed: March 6, 2017

Justification:

Eudonia interlinealis is an endemic species present in the islands of Corvo, Flores, Faial, Pico, Graciosa, S. Jorge, Terceira, S. Miguel and Santa Maria (Azores, Portugal) (Nuss *et al.* 1997; Borges *et al.* 2010). It has a relatively small area of ocupancy (AOO = 324 km²), but a large extent of ocurrence (EOO = ca 41,000 km²). It is usually associated with native forest, occurring in eleven Natural Forest Reserves of Azores. It is a specialist phytophagous species, closely associated with Azorean endemic trees and have possibly two generations per year. 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 and high abundance in the canopies of endemic trees, having also a high range of altitude occupancy (0-2100 m).

Geographic Range

Range Description:

Eudonia interlinealis is an endemic species present in the islands of the Corvo, Flores, Faial, Pico, Graciosa, S. Jorge, Terceira, S. Miguel and S. Maria (Azores, Portugal) (Nuss *et al.* 1997, Borges *et al.* 2010), known from eleven Natural Forest Reserves of Caldeiras Funda e Rasa (Flores); Caldeira do Faial and Cabeço do Fogo (Faial); Caveiro (Pico); Pico Pinheiro and Topo (S. Jorge); Biscoito da Ferraria, Caldeira Sta. Bárbara e Mistérios Negros and Terra Brava (Terceira); Pico da Vara (S. Miguel) and Pico Alto (Sta. Maria). The extent of occurrence (EOO) is *ca* 41,000 km² and the maximum estimated area of occupancy (AOO) is 324 km².

Country Occurrence:

Native: Portugal (Azores)

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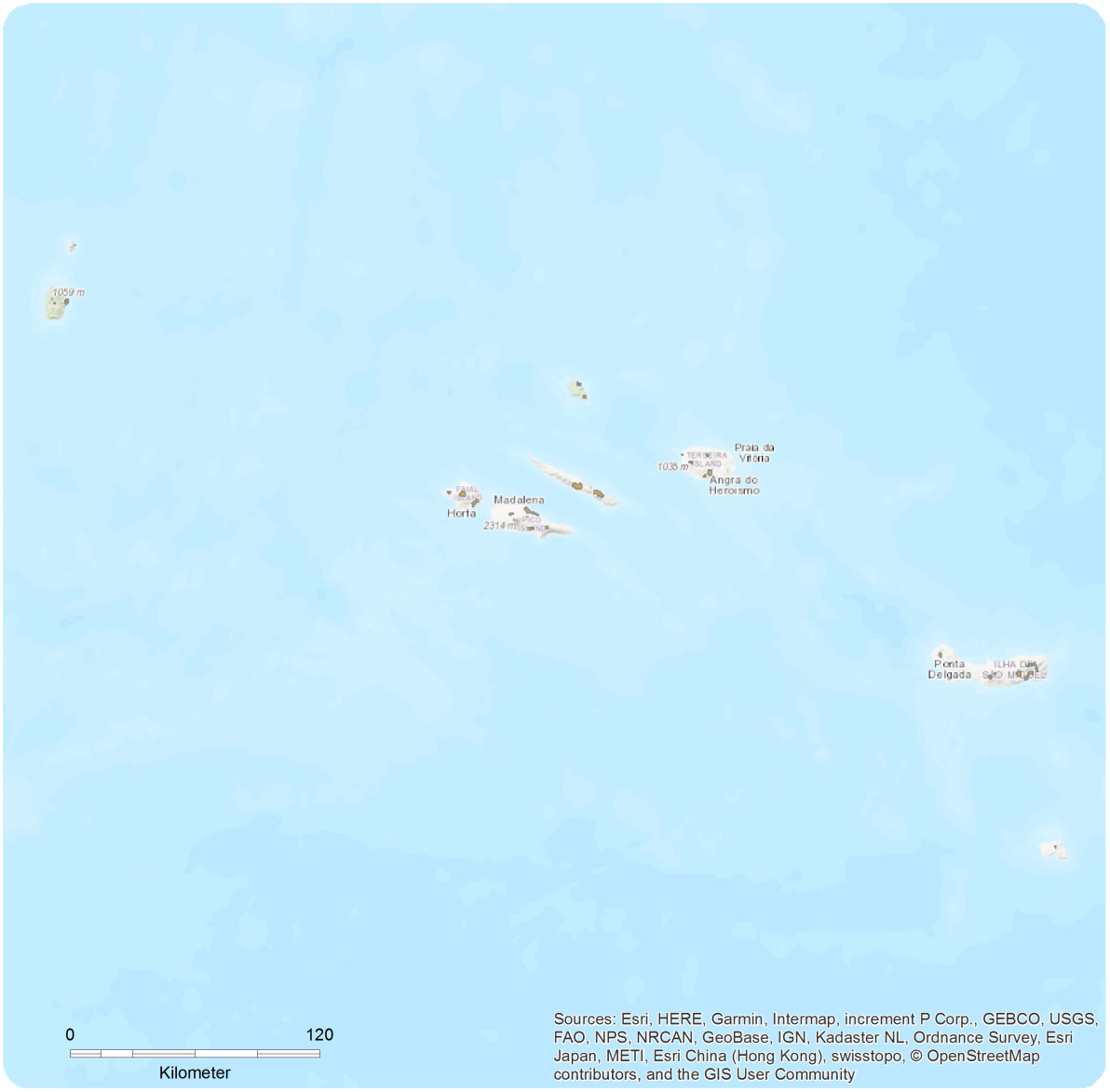
Distribution Map

Eudonia interlinealis

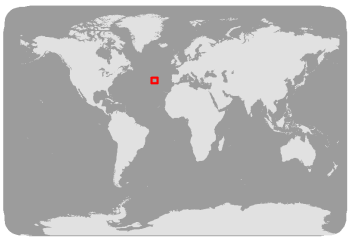


Range

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

Eudonia interlinealis is a widespread and relatively high abundant species in the native forest. The species currently presents a stable population and occurs in all islands.

Current Population Trend: Stable

Habitat and Ecology (see Appendix for additional information)

The species occurs in native forests of the Corvo, Flores, Faial, Pico, Graciosa, S. Jorge, Terceira, S. Miguel and Santa Maria islands (Azores, Portugal). The larva is unknown, but considered to be a specialist herbivore, and the adult is frequently seen as pollinator. Known flight period: January, March to August, October to November (Nuss *et al.* 1997), with probably two generations per year. Altitudinal range: 0-2100 m.

Systems: Terrestrial

Use and Trade

The 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 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 Corvo, Faial, Flores, Graciosa, Pico, S. Jorge, Terceira, S. Miguel and Sta. Maria). Degraded habitats should be restored and a strategy needs to be developed to address the future threat by climate change. A habitat management plan is needed and anticipated to be developed during the coming years. Further research is needed on 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 in additional natural forest areas in all islands of the Azores and to obtain information on population size, distribution and trends. It is also necessary a monitoring plan for the invertebrate community in the habitat in order to contribute to a species potential recovery plan. 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.

Reviewer(s): Danielczak, A.

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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.

Borges, P.A.V., Pimentel, R., Carvalho, R., Nunes, R., Wallon, S. & Ros Prieto, A. 2017. Seasonal dynamics of arthropods in the humid native forests of Terceira Island (Azores). *Arquipelago Life and Marine Sciences* 34: 105-122.

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).

Nuss, M., Karsholt, O. & Meyer, M. 1997. A taxonomic revision of the Scopariinae from the Macaronesian Region (Lepidoptera: Pyraloidea: Crambidae). *Entomologica Scandinavica* 28(4): 509-551.

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.

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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	Resident	Suitable	Yes
3. Shrubland -> 3.4. Shrubland - Temperate	Resident	Suitable	Yes

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	Ongoing	Whole (>90%)	Slow, significant declines	Medium impact: 7
	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		
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

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

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 324
Continuing decline in area of occupancy (AOO): No
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 41000
Continuing decline in extent of occurrence (EOO): No

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Distribution
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 21
Continuing decline in number of locations: Yes
Lower elevation limit (m): 0
Upper elevation limit (m): 2100
Population
Continuing decline of mature individuals: No
Population severely fragmented: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 0.5
Movement patterns: Not a Migrant

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.