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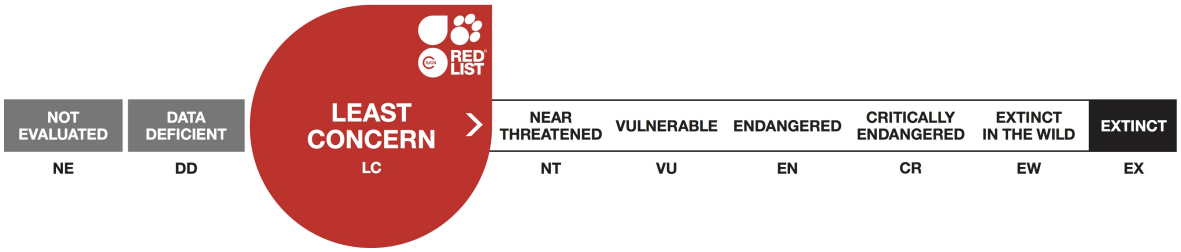
Noctua atlantica, Owlet Moth

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: *Noctua atlantica* (Warren, 1905)

Synonym(s):

- *Agrotis atlantica* Warren, 1905

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 17, 2017

Justification:

Noctua atlantica is an endemic species present in Corvo, Flores, Faial, Pico, Graciosa, S. Jorge, Terceira and S. Miguel 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 = *ca.* 28,800 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, being known from at least six Natural Forest Reserves. The larvae are polyphagous feeding on grasses, and the adults are nearly present throughout the year, Based on Ferreira *et al*. (2016) the habitat will decline as a consequence of climate change. The species is assessed as Least Concern (LC) due to the widespread distribution and high abundance in several habitats, having also a high range of altitude occupancy (10-1000 m).

Geographic Range

Range Description:

Noctua atlantica is an endemic species present in Corvo, Flores, Faial, Pico, Graciosa, S. Jorge, Terceira and S. Miguel islands (Azores, Portugal) (Borges *et al.* 2010), known from native vegetation dominated by *Juniperus brevifolia* but also at their sorroundings (above 600 m asl). The species occurrs in at least six Natural Forest Reserves: Caldeiras Funda e Rasa and Morro Alto e Pico da Sé (Flores); Caldeira do Faial and Cabeço do Fogo (Faial); Pico Pinheiro (S. Jorge); Caldeira Guilherme Moniz,(Terceira). The

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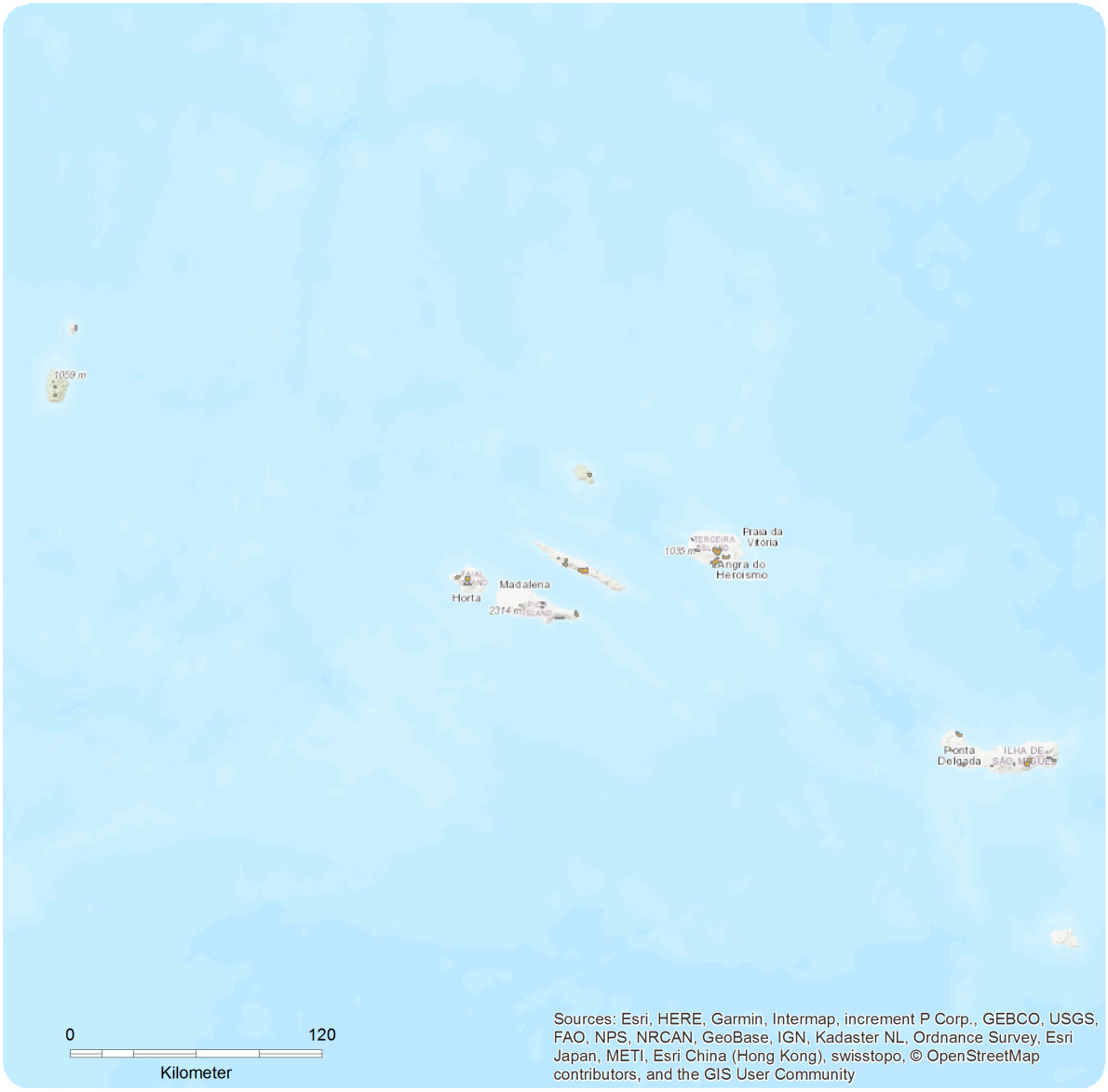
extent of occurrence (EOO) is *ca* 28,800 km² and the maximum estimated area of occupancy (AOO) is 312 km².

Country Occurrence:

Native: Portugal (Azores)

Distribution Map

Noctua atlantica



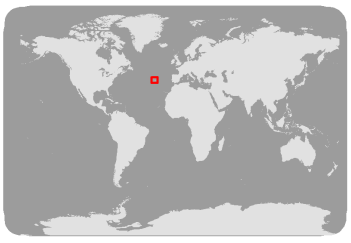
Range

Extant (resident)

Compiled by:

Paulo Borges

NE DD LC LEAST CONCERN NT VU EN CR EW EX



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

This species is very abundant on most Azorean islands, and occurs mainly in native vegetation. This species presents a stable population.

Current Population Trend: Stable

Habitat and Ecology (see Appendix for additional information)

This species inhabits the uplands on Azorean islands except Santa Maria (above 600 m Asl), preferably into native forest and also at their surroundings with grassy clearings as well as along sunny forest roads of exotic coniferous forests. The larvae are polyphagous feeding on grasses, and the adults are nearly present throughout the year, with individuals flying readily to light from April to November (Vieira *et al.* 1998); it has two generations per year at high altitudes (Oliveira *et al.* 2004). Altitudinal range: 10-1000 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). 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 and S. Miguel). 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.

Reviewer(s): Danielczak, A.

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

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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
4. Grassland -> 4.4. Grassland - Temperate	Resident	Suitable	Yes
14. Artificial/Terrestrial -> 14.3. Artificial/Terrestrial - Plantations	Resident	Marginal	-
0. Root -> 16. Introduced vegetation	Resident	Marginal	-

Threats

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

Threat	Timing	Scope	Severity	Impact Score
10. Geological events -> 10.1. Volcanoes	Future	Whole (>90%)	Very rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 2. Species Stresses -> 2.1. Species mortality		
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		
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		

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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		
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		

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

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

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Research Needed
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): 312
Continuing decline in area of occupancy (AOO): No
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 28800
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 27
Continuing decline in number of locations: Yes
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 10
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: Yes
Generation Length (years): 0.5
Movement patterns: Not a Migrant

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