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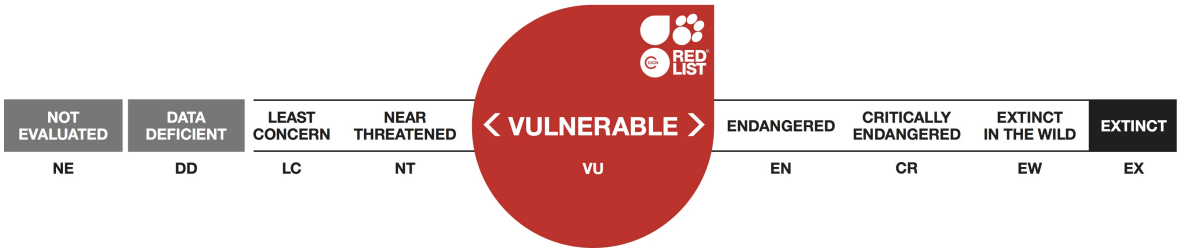
Neomariania oecophorella, Moth

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



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Lepidoptera	Stathmopodidae

Taxon Name: *Neomariania oecophorella* Rebel, 1940

Synonym(s):

- *Megaceraea oecophorella Rebel, 1940*

Common Name(s):

- English: Moth

Taxonomic Source(s):

2016. The Azorean Biodiversity Portal. Available at: http://azoresbioportal.uac.pt/.

Assessment Information

Red List Category & Criteria: Vulnerable B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v) ver 3.1

Year Published: 2018

Date Assessed: March 23, 2017

Justification:

Neomariania oecophorella is an endemic species present in Flores, Faial, Pico, Terceira and S. Miguel islands (Azores, Portugal) (Borges *et al.* 2010). It has a relatively large extent of occurrence (EOO = *ca* 17,000 km²), but a small area of occupancy (AOO = 32 km²). The species was originally abundant and known from at least six fragmented populations. Currently *Neomariania oecophorella* is under threat due to degradation of the habitat by urban development, but also due to invasive plants *Pittosporum undulatum* and *Hedychium gardnerianum* that are changing some of the areas and decreasing the quality of the habitat. Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change. Based upon the small area of occupancy, decreasing quality of the habitat and low number of subpopulations it is assessed as Vulnerable.

Geographic Range

Range Description:

Neomariania oecophorella is an endemic species present in Flores, Faial, Pico, Terceira and S. Miguel islands (Azores, Portugal) (Borges *et al.* 2010), known originally from native forest and in open landscapes with isolated tree groups. The extent of occurrence (EOO) is *ca* 17,000 km² and the maximum estimated area of occupancy (AOO) is 32 km².

Country Occurrence:

Native: Portugal (Azores)

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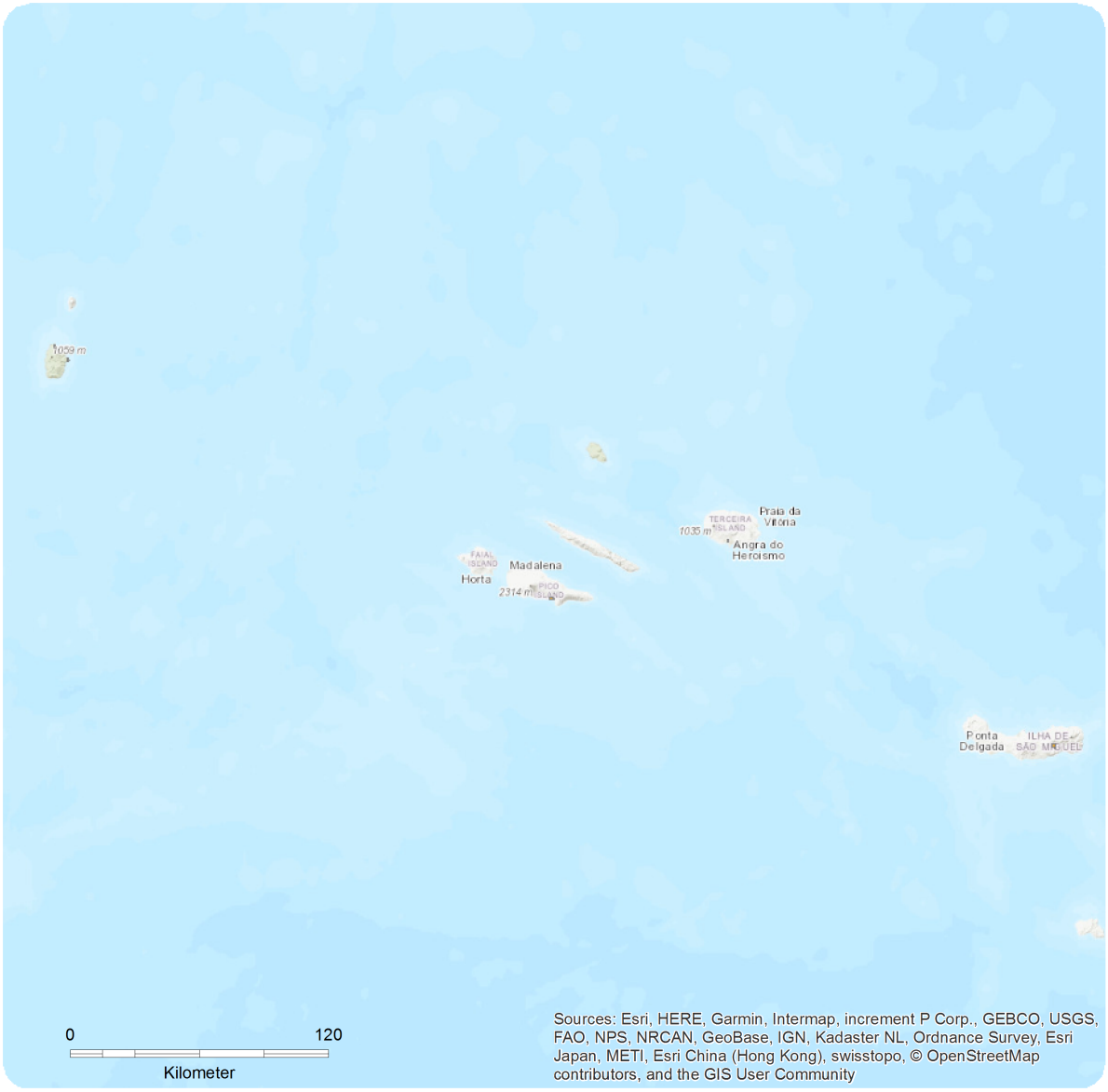
Distribution Map

Neomariania oecophorella

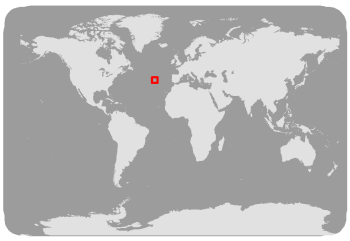


Range

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

This species is low abundant in the Azorean islands (Flores, Faial, Pico, Terceira and S. Miguel), occurring mostly in native vegetation but also in naturalised plants at low elevations.

Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

The species occurs in native forest areas but also in open landscapes with isolated tree groups. Possibly, the larvae feed on fruit and flowers such as Fabaceae and Moraceae, also in sporangia of ferns; the adult flies in May and June (Rebel 1940). Altitudinal range: 10-200 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). In some of the historical locations major changes also occurred for urban development in the last 50 years. 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. Further research is needed to monitor the species and conservation measures to control the invasive *Hedychium gardnerianum* and *Pittosporum undulatum* should be implemented to improve habitat quality for this species. Additional research is needed into its ecology and life history in order to 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.

Credits

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

Reviewer(s): Danielczak, A.

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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
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		
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Minority (50%)	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 -> 11.1. 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		

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		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 (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
Occur in at least one PA: No
Percentage of population protected by PAs (0-100): 0

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

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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): 32
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 17185
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 6
Continuing decline in number of locations: Yes
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 10
Upper elevation limit (m): 200
Population
Continuing decline of mature individuals: Yes
Population severely fragmented: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 1
Movement patterns: Not a Migrant

The IUCN Red List Partnership

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