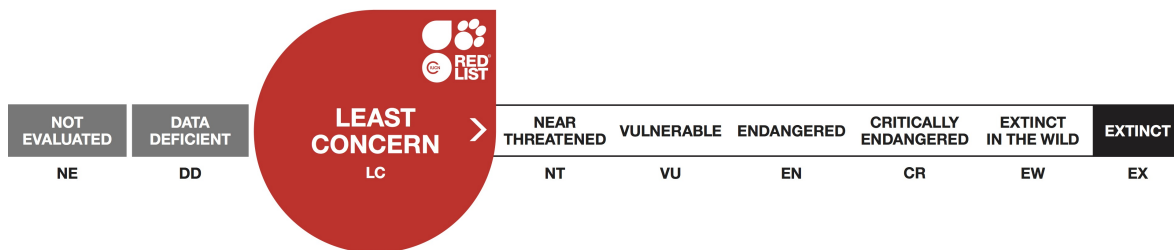


## *Nysius atlantidum*, Ground bug

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



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**Citation:** Borges, P.A.V. & Nunes, R. 2018. *Nysius atlantidum*. The IUCN Red List of Threatened Species 2018: e.T97489122A99167009. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T97489122A99167009.en>

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Hemiptera	Lygaeidae

**Taxon Name:** *Nysius atlantidum* Horváth, 1980

### Common Name(s):

- English: Ground bug, Milkweed bug, Seed bug

### 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., Wetzell, 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 5, 2017

### Justification:

*Nysius atlantidum* is an endemic ground bug species present in six islands of the Azorean archipelago (Faial, Flores, Graciosa, Terceira, São Miguel and Santa Maria) (Borges *et al.* 2010). It has a relatively small area of occupancy (AOO = 64 km<sup>2</sup>), but a large extent of occurrence (EOO = ca 35,000 km<sup>2</sup>). It is usually associated with *Erica azorica* shrubs and herbaceous vegetation. The quality of the habitat is decreasing due to the spread of invasive species (*Hedychium gardnerianum*) that is changing the habitat structure. 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 adaptation to low altitude human modified habitats.

## Geographic Range

### Range Description:

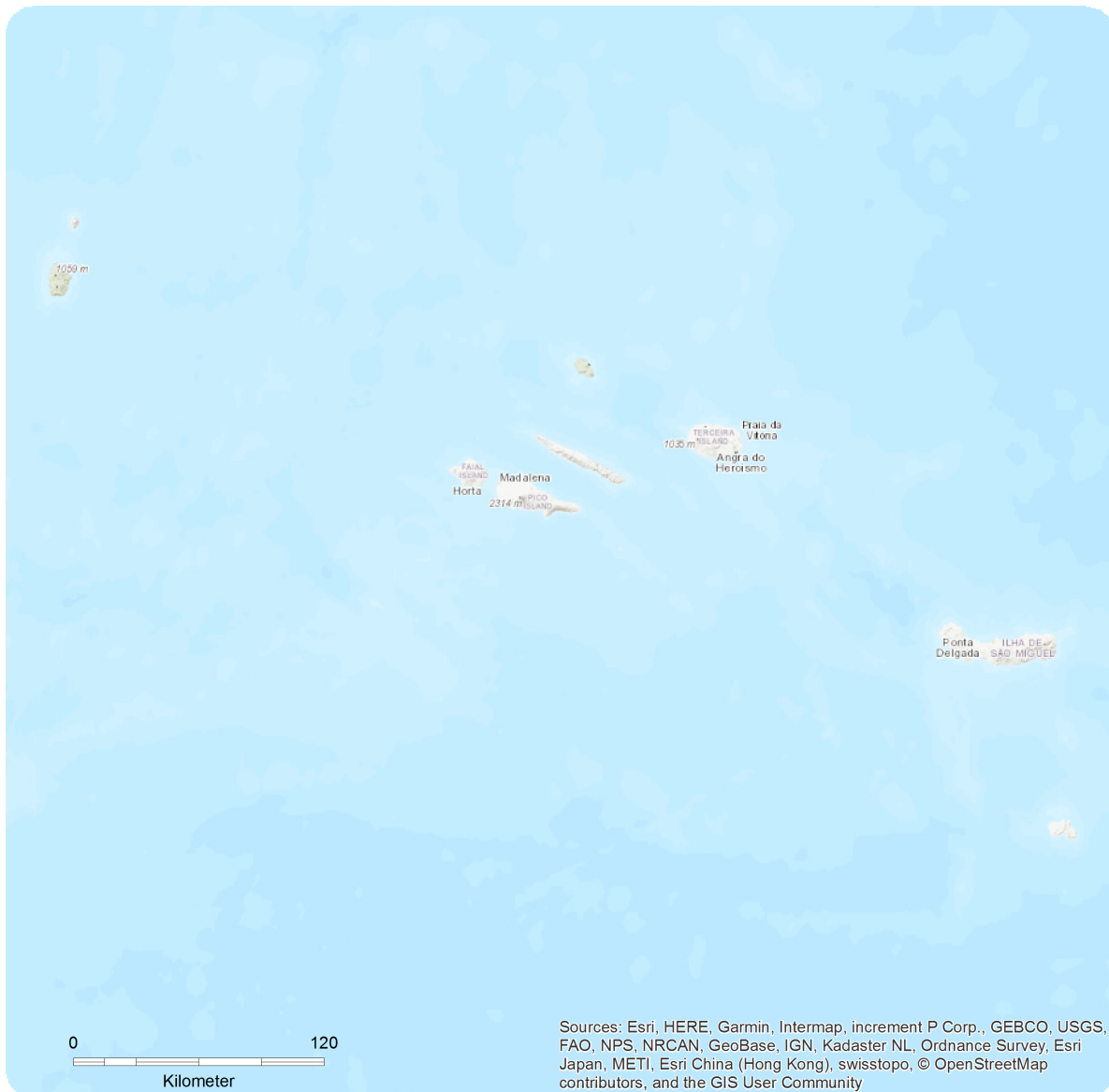
*Nysius atlantidum* is an endemic ground bug species present in six islands of the Azorean archipelago (Faial, Flores, Graciosa, Terceira, São Miguel and Santa Maria) (Borges *et al.* 2010). Within these six islands it is known from three Natural Forest Reserves: Morro Alto e Pico da Sé (Flores); Cabeço do Fogo (Faial) and Pico Alto (Sta. Maria). The extent of occurrence (EOO) is ca 35,000 km<sup>2</sup> and the maximum estimated area of occupancy (AOO) is 64 km<sup>2</sup>.

### Country Occurrence:

**Native:** Portugal (Azores)

# Distribution Map

*Nysius atlantidum*



## 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.



## Population

*Nysius atlantidum* is widespread and abundant in several islands, occurring mostly in native vegetation but also in exotic or naturalised vegetation. This species has probably a stable population.

**Current Population Trend:** Stable

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

*Nysius atlantidum* occurs mostly in native vegetation but also in exotic (e.g. Orchards) or naturalised vegetation. It is usually associated with *Erica azorica* shrubs and herbaceous vegetation mostly in coastal areas. This is a phytophagous species with day activity.

**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 (Triantis *et al.* 2010). However, the species seems to have survived in the remaining native forests and shrublands of several islands, as well as in some Human modified habitats. The main current threat is the spread of invasive species namely *Hedychium gardnerianum*. 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 Flores, Faial and S. Maria). Further research is needed to monitor the species and conservation measures to control the invasive *Hedychium gardnerianum* should be implemented to improve habitat quality for this species. Additional research is needed into its ecology and life history in order to understand its dynamics. 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. Monitoring every ten years using the BALA protocol will inform about habitat quality (see e.g. Gaspar *et al.* 2010).

## Credits

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

**Reviewer(s):** Danielczak, A.

**Contributor(s):** Lamelas-López, L.

## Bibliography

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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.

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## Citation

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## External Resources

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# 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
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		
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		

## Conservation Actions in Place

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

<b>Conservation Actions in Place</b>
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>)

<b>Conservation Actions 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
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>)

<b>Research Needed</b>
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

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 64

<b>Distribution</b>
Continuing decline in area of occupancy (AOO): No
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 35000
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 14
Continuing decline in number of locations: No
Lower elevation limit (m): 0
Upper elevation limit (m): 600
<b>Population</b>
Continuing decline of mature individuals: No
Population severely fragmented: No
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 1
Movement patterns: Not a Migrant

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