

## *Lethariella togashii*

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Fungi	Ascomycota	Lecanoromycetes	Lecanorales	Parmeliaceae

**Taxon Name:** *Lethariella togashii* (Asahina) Krog

### Synonym(s):

- *Letharia togashii* Asahina

### Identification Information:

The species was described as a *Letharia* (Asahina 1952) and later transferred to the genus *Lethariella* according to morphological-anatomical and chemical characters (Krog 1976). It is the only species of the subgenus *Nipponica*; the latter is characterized by the solid and elastic axis, like in *Usnea*, but with soft, reticulately ridged cortex. The genus *Letharia* is morphologically separated from *Lethariella* mainly by the lacerate axis. The yellow-coloured thallus due to vulpinic acid is distinct in *Letharia*; this substance is also present in the medulla of *Lethariella togashii* but due to the low concentration not always recognizable as yellow pigment (Obermayer 1997; Ohmura 2011).

## Assessment Information

**Red List Category & Criteria:** Vulnerable B2ab(iii) [ver 3.1](#)

**Year Published:** 2018

**Date Assessed:** August 31, 2017

### Justification:

Global distribution of *Lethariella togashii* is limited to only six localities in Japan and Russian Far East, meaning its true area of occupancy is likely to be well below the threshold for Vulnerable (2,000 km<sup>2</sup>). In Japan, it has been recorded in Hokkaido (2 locations, extant) and in central Honshu, around Mt. Fuji, but in this area the species has not been found after 1950s, and is considered extinct at present. It is also known from Russia: Sakhalin, Kunashir Isl. and adjacent region in Habarovsk krai (Sikhote-Alin Mts), all 3 locations are extant. The species is treated as a relict from the last glacial period and its distribution area in Japan has declined (Kashidawani & Inoue 2000; Y. Ohmura, pers. comm.). It is also under threat in Russian locations by the destruction of habitats (montane coniferous forests), possibly due to human activities – forest fires and tree cutting (Russia's Boreal Forests 2007).

## Geographic Range

### Range Description:

The species is known from Japan (Honshu and Hokkaido) and the Far East of Russia (islands Sakhalin and Kunashir, and Sikhote-Alin in Habarovsk region), altogether from 6 localities.

### Location records:

1. Japan, central Honshu, Prov. Kai (Yamanashi Prefecture), Minamitsuru-gun distr., leg. M. Togashi

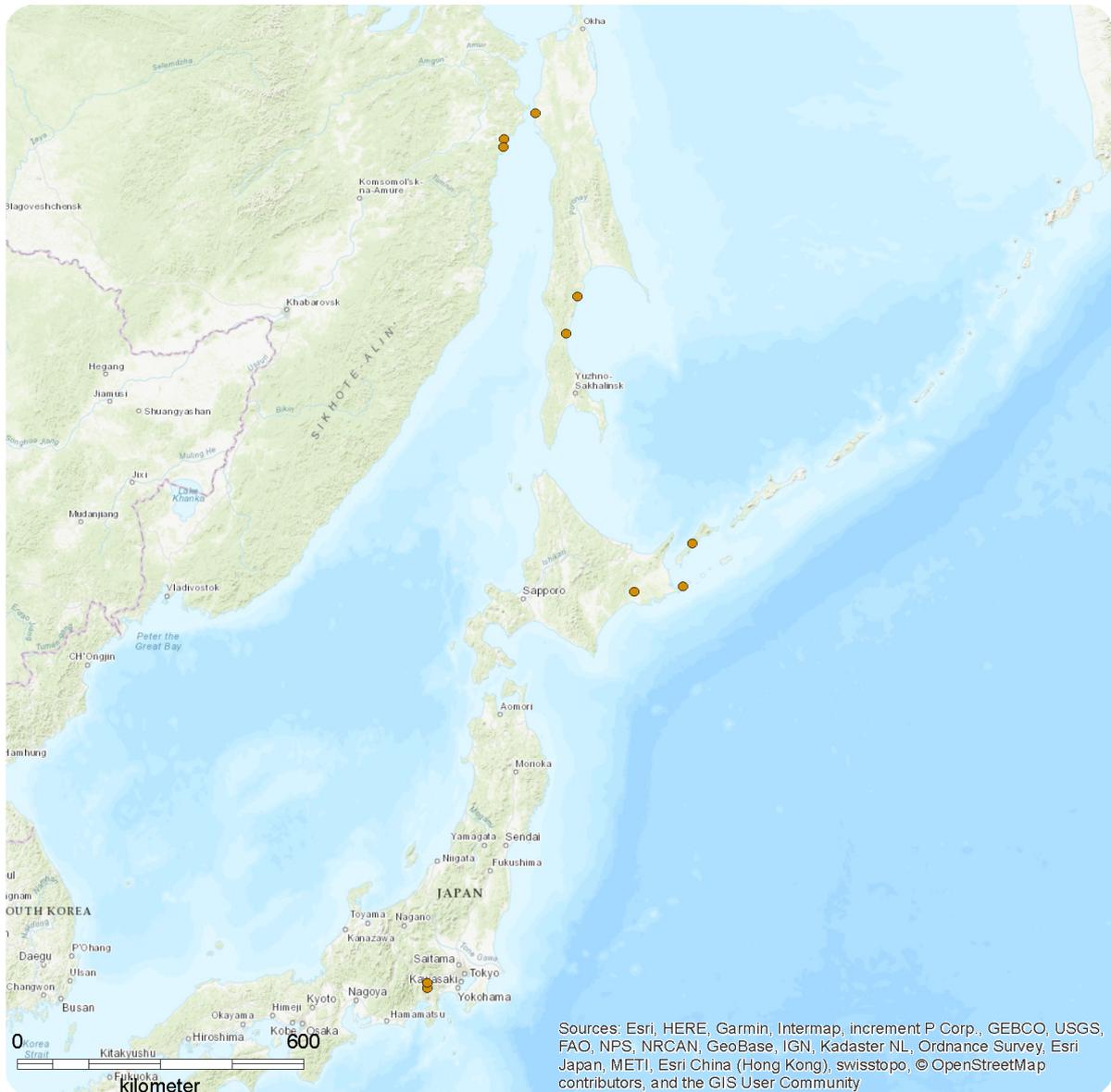
- 11.08.1952 (type; distributed in *Lichenes Rariores et Critici Exsiccati* 66); by Lake Yamanaka, Mt. Fuji, leg. M. Togashi 14.07.1953 (H; distributed in *Lichenes Japoniae Exsiccati* 26).
2. Japan, Hokkaido, Prov. Kushiro, Mt. O-akan (Akan), leg. Y. Ohmura 10.08.2009 (Ohmura 2011).
3. Japan, Hokkaido, Nemuro (List of endangered lichen species. *Lethariella togashii*. 2003. <http://www.kahaku.go.jp/research/db/botany/chii-e/05/zchii019.htm>).
4. Russia, Far East, island Sakhalin (Skirina 2006).
5. Russia, Far East, Habarovsk krai, Sikhote-Aline (Skirina 2006).
6. Russia, Far East, Kurile Isl., Kunashir, leg. A. Ezhkin 2014.

**Country Occurrence:**

**Native:** Japan (Hokkaido, Honshu); Russian Federation (Khabarovsk, Kuril Is., Primoryi, Sakhalin)

# Distribution Map

*Lethariella togashii*



## Range

- Extant (resident)

Compiled by:

IUCN



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.



## Population

*Lethariella togashii* is a very rare species but no detailed assessments of population size and its decline exist. One subpopulation out of six (ca 17%) is considered extinct. Further decline by the destruction of habitats (montane coniferous forests) due to human activities, forest fires and tree cutting, is possible.

**Current Population Trend:** Decreasing

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

On bark of coniferous trees (e.g. *Abies*, *Picea*) in coniferous stands in lower elevations (700-1000 m) of mountain forests.

**Systems:** Terrestrial

## Threats (see Appendix for additional information)

Destruction of habitats (montane coniferous forests), possible due to either human activities or natural causes – forestry (tree cutting) and forest fires.

## Conservation Actions (see Appendix for additional information)

No conservation actions are known. Ecological studies are needed to find out more about the auto- and synecology of the species, which would contribute to the future knowledge about possible threats and relevant conservation measures.

## Credits

**Assessor(s):** Ohmura, Y., Randlane, T. & Spribille, T.

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**Contributor(s):** Weerakoon, G.

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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 -> 1.1. Forest - Boreal	Resident	Suitable	Yes

### Threats

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

Threat	Timing	Scope	Severity	Impact Score
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.4. Unintentional effects: (large scale) [harvest]	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		
6. Human intrusions & disturbance -> 6.1. Recreational activities	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		
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.1. Increase in fire frequency/intensity	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		
7. Natural system modifications -> 7.3. Other ecosystem modifications	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		

### Conservation Actions in Place

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

Conservation Actions in Place
In-Place Research, Monitoring and Planning
Action Recovery plan: No
In-Place Land/Water Protection and Management

<b>Conservation Actions in Place</b>
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Conservation sites identified: Yes, over part of range
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## Research Needed

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

<b>Research Needed</b>
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1. Research -> 1.2. Population size, distribution & trends
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1. Research -> 1.3. Life history & ecology
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3. Monitoring -> 3.1. Population trends
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3. Monitoring -> 3.4. Habitat trends
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## Additional Data Fields

<b>Distribution</b>
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Estimated area of occupancy (AOO) (km <sup>2</sup> ): 20
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Number of Locations: 6
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Lower elevation limit (m): 700
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Upper elevation limit (m): 1000
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<b>Habitats and Ecology</b>
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Continuing decline in area, extent and/or quality of habitat: Yes
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Generation Length (years): 35
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