IUCN SSC Chytrid, Zygomycete, Downy Mildew, Slime Mould Specialist Group

2016-2017 Report

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Co-Chairs

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Red List Authority Coordinator

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Location/Affiliation

[(1)] National Botanic Garden, University of Havana, Havana, Cuba
[(2)] Kyiv National Construction and Architecture University, Ecology Department, Kyiv, Ukraine

Number of members

25

Social networks

Facebook:
Myxomycetes (Slime Molds) of the world
https:www.facebook.com/groups/SlimeMold/

Mission statement

The mission of our IUCN Specialist Group is to promote the conservation of chytrids, downy mildews, myxomycetes and zygomycetes.

Main activities by Key Priority Area (2016 & 2017)

Barometer of life

■ Red List

i. Previous evaluations of the conservation status of 20 myxomycetes species were published in IMI Description Sheets of Fungi and Bacteria, CABI, Wallingford, UK. This information is ready to be used for Red List assessment. (KSR #32)

Capacity building

■ Capacity building

i. We have already completed Red List workshops in Japan during the International Congress of the Systematics and Ecology of Myxomycetes, in 2017, and in France during the International Days for the Search and Study of Nivicolous Species of Myxomycetes in 2016 and 2017. Overall, we have secured training for 115 people from 21 countries. (KSR #5)

Communications

■ Communication

i. Lectures and workshops in Whitby Naturalists Club (UK) and lectures for students (Ukraine). Overall, we provided information to 185 people. (KSR #28)

Conservation action

■ Research activities

i. Field expeditions were focused on the study of nivicolous species in the Alps and Pyrenees, and tropical species on Martinique. Some specific patterns in ecology and distribution of myxomycetes were found in isolated tropical islands. (KSR #12)

ii. The myxomycetes (plasmodial slime molds or myxogastrids) are likely to be affected by climate change, since temperature and moisture are the main factors limiting their occurrence in nature. However, the resilience of myxomycetes to climate change is extremely difficult to determine due to their cryptic life history. It is possible that myxomycetes may represent one of the least affected groups of organisms, although all available evidence suggests that the anticipated changes in climate regimes are going to have a significant impact upon their distribution and ecology. This will be especially true for those species of myxomycetes restricted to particular types of microhabitats (e.g., alpine snow banks) or which are confined to geographical areas that are limited in extent (e.g., small oceanic islands). Finally, the composition of assemblages of myxomycetes species associated with deserts, polar regions and other ecosystems of the world could also be affected. (KSR #32)

Physarella oblonga
Photo: Alain Michaud

Lamproderma splendens
Photo: Alain Michaud

Acknowledgements

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Targets for the quadrennium 2017-2020

Barometer of life

Red List: complete assessment of 100 species of myxomycetes.

Research activities: analyze population trends, threats and assessment of species using the IUCN Red List criteria and formulate conservation actions for chytrids, zygomycetes, downy mildews and slime moulds.

Communications

Communication: promote conservation activities in favour of chytrid, zygomycete, downy mildew and slime mould.

Synergy: organize a network of specialists and stakeholders to discuss on conservation problems for "lower fungi" and for exchange of successful protection measures.

Conservation action

Research activities: study climate change impact on myxomycetes, chytrid, zygomycete and downy mildew.

Policy

Policy advice: promote conservation of different groups of living organisms that were not considered to be in danger before, but are in need of protection today.

Projected impact for the quadrennium 2017-2020

By the end of 2020, we envision a substantial advance in understanding extinction risks for certain ecological groups of myxomycetes, chytrid, zygomycete, downy mildew and particular species. One of the most important aspects of evaluating possible impacts of climate change and anthropogenic influence is to demonstrate that changes are occurring in the distribution of particular species. In future research, at least two possible effects of climate change and other negative impacts should be clearly distinguished. First, the negative impacts on composition of species assemblages, which does not necessarily threaten particular species, must be assessed. Second, the negative impacts on a single species, which may well be threatened and thus would warrant inclusion on Red Lists, needs to be evaluated. In addition, promotion of conservation activities for neglected groups of living organisms will provide the general vision of nature processes functioning; especially, attention needs to be focused on discovering the role of chytrids, zygomycetes, downy mildews, and myxomycetes on people's life and their relationships with other species. Also, the conservation action network of experts and amateurs will expand.

Summary of activities (2016-2017)

Key Priority Area ratio: 4/7

Key Priority Areas addressed:

- Barometer of life (1 activity)
- Capacity building (1 activity)
- Communications (1 activity)
- Conservation action (2 activities)

Main KSRs addressed: 5, 12, 28, 32

KSR: Key Species Result

Cribraria rufa
Photo: Alain Michaud