

## 2021 Report

# IUCN SSC Cave Invertebrate Specialist Group



#### CHAIR

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#### RED LIST AUTHORITY COORDINATOR

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#### NUMBER OF MEMBERS

90

#### SOCIAL MEDIA AND WEBSITE

Facebook: @caveinvertebrates

Twitter: @caveinverts

### Mission statement

The Cave Invertebrate Specialist Group (CISG) is a global network of experts working on organisms associated with karst and caves. Our goals are to contribute to increasing knowledge of these animals and plants, which are extremely rich in narrow endemics, and to promote conservation action through Red Listing, mostly focused on species under threats like limestone quarrying or water pollution.

### Projected impact 2021–2025

Our activity will be progressively and significantly redirected towards more conservation-relevant species and sites, rather than towards multiple Red Listing of species not associated with clear conservation issues. We shall deliver a communication on this re-orientation at the Biospeleological Society Congress, held in Romania in July 2022. In parallel, we are discussing special features of subterranean animal assessments, as they strongly differ from surface species in many important respects; we hope that this will impact positively the way they are assessed in the near future. We also expect it will have a real impact on conservation efficiency by targeting as priority the species most at risk on critical sites.

### Targets 2021–2025

#### ASSESS

T-001 Upgrade the Brazilian cave species from national to global IUCN Red List assessments.

T-002 Complete global Red List assessment of 20 cave species from Maros karst, South Sulawesi (Indonesia).

T-003 Complete global Red List assessment of several cave species from Georgia.

T-004 Complete global Red List assessment of Remipedia.

T-005 Complete global Red List assessment of a cave species from Hon Chong karst, Viet Nam.

T-010 Revise the global Red List assessments for the Dinaric cave clam *Congerius kusceri* (which is now three species).

#### NETWORK

T-011 Participate in designating the 'Tony Whitten Conservation Prize' fund for grants on cave biodiversity of Southeast Asia.

#### COMMUNICATE

T-006 Develop CISG website.

T-007 Participate at the 21<sup>st</sup> International Conference on Subterranean Biology, Romania, 2022 (still waiting on confirmation if it will be held).

T-008 Co-organise symposium session on Biospeleology at the 18th International Congress of Speleology in Lyon, France, 2022.

T-009 Set up a network of regional contact persons for identifying and dealing with regional issues.

T-014 Publish data on hot-spots of cave invertebrates, including evaluation of threats.

### Activities and results 2021

#### ASSESS

##### Red List

T-001 (KSR 6)

**Number of global Red List reassessments completed: 1**

**Result description:** Upgrading of the Brazilian cave species from national to global IUCN Red List assessments was hampered by COVID restrictions in 2021; it was informally initiated in 2022 and is planned for 2023. It is a complicated task.

T-002 (KSR 6)

**Number of new global Red List assessments completed: 1**

**Result description:** In 2021, we published a paper which deals with most of the species we plan to assess on Maros: Deharveng, L., Rahmadi, C., Suhardjono, Y.R. and Bedos, A. (2021). 'The Towakkalak System, a hotspot of subterranean biodiversity in Sulawesi, Indonesia'. *Diversity* 13(8):392. <https://doi.org/10.3390/d13080392>. All data useful for the assessments have been gathered for most of the 20 species planned for Red Listing.



Quarries in Hon Chong hills (Viet Nam) in 2005, that are driving to extinction many microendemic species of this karst  
Photo: Deharveng & Bedos

**T-003 (KSR 6)**

**Number of new global Red List assessments completed: 1**

**Result description:** The experts from Georgia have expressed the intention to assess several cave species for the IUCN Red List. The work is currently well advanced, as a few months ago the assessor completed his chapter 'Georgia' for the new edition of *Encyclopaedia Biospeologica - Europe*, which we coordinate and that will be published by Museum National d'Histoire Naturelle de Paris (France).

**T-004 (KSR 6)**

**Number of new global Red List assessments completed: 0**

**Result description:** Assessment of species has not yet started but will be discussed by end-2022 and should start in 2023.

**T-005 (KSR 6)**

**Number of new global Red List assessments completed: 1**

**Result description:** One publication was produced related to the species to be assessed: Deharveng, L., Bedos, A. and Lukic, M. (2020). 'The genus *Folsomides* in the Hòn Chông hills, Vietnam (Collembola: Isotomidae)'. *Raffles Bulletin of Zoology* 35:32–47. All data for the assessment, which remains to be formally written, are gathered in this paper.

**T-010 (KSR 6)**

**Number of global Red List reassessments completed: 0**

**Result description:** By the end of 2021, our expert group had expressed interest in assessing a group of cave species from Dinaric karst, including the three species of genus *Congeria*. The assessments are expected to be finalised in 2023.

**NETWORK**

**Proposal development and funding**

**T-011 (KSR 1)**

**Number of candidates retained: 5**

**Result description:** Grants of the Tony Whitten Memorial Award have been allocated to several young taxonomists and conservationists, of which a large part deal with cave invertebrates.

**COMMUNICATE**

**Communication**

**T-006 (KSR 12)**

**Number of websites developed: 0**

**Result description:** An SSC Internal Grant has been awarded for development of the CISG website. The funds have been transferred in 2022 and the grant and the target will be finished by the end of 2022.

**T-007 (KSR 13)**

**Number of SSC members' presentations developed in relation to specific taxonomic groups: 1**

*Tritomurus falcifer* (Collembola)  
from Pyrenean caves. Length about 2 mm  
Photo: Louis Deharveng



*Cancrocaeca xenomorpha*, a freshwater crab  
from caves of the Maros karst (Indonesia)  
Photo: RIGAL Didier

**Result description:** The Congress of the International Society of Biospeleology (ISSB) was postponed to 2022 due to COVID restrictions; it will be held in Romania, and we shall present a communication about cave invertebrate Red Listing.

**T-008 (KSR 13)**

**Number of SSC members' presentations developed in relation to specific taxonomic groups: 0**

**Result description:** Having been postponed from 2021 due to the COVID-19 pandemic, the congress of the International Union of Speleology (UIS) will take place in July 2022, same as the ISSB congress. Our planned communications were postponed as well. Within this congress, we are a co-organiser of the symposium session on cave biology and produced a first pre-print volume of papers at the end of 2021. The final volume is planned for the end of 2022, after the July congress. A number of papers end on conservation notes and may open the way to relevant species Red Listing. Information on the symposium on Biospeleology can be found at: <https://uis2021.speleos.fr/symposium-7/>.

**T-009 (KSR 13)**

**Regional focal persons are identified and manage issues regarding their region: Ongoing.**

**Result description:** Little progress has been made, as the two congresses where we should have discussed this with colleagues were postponed to 2022. The discussion will be held in these two congresses next summer.

**T-014 (KSR 12)**

**Number of books, handbooks and guides published: 1**

**Result description:** Reprint as a book of the Special Issue "Hotspots of Subterranean Biodiversity", originally published in HYPERLINK "<https://www.mdpi.com/journal/diversity>" Diversity (Pipan T., D.C. Culver and L. Deharveng (Eds.). 2021. Hotspots of Subterranean Biodiversity. <https://doi.org/10.3390/books978-3-0365-2360-6>).

### Acknowledgements

Activities of the CISG largely rely on the efforts of Ana Komericki, working as Programme Officer, as well as the help of several labs, taxonomists, biologists and cavers for assessments and for new assessment proposals, given the large spectrum of organisms we are covering. No institutional partners are formally

associated yet, but links are expected to be established within the current quadrennium with SSC groups whose coverage includes some partly subterranean taxa (crickets, snails, spiders), and with the World Commission on Protected Areas. In the red listing field project on the Maros karst invertebrate fauna (Indonesia: Sulawesi), the work will be done in cooperation with the Bantimurung-Bulusaraung National Park authorities.

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### Summary of achievements

**Total number of targets 2021–2025: 12**

**Geographic regions:** 5 Global, 2 America, 4 Asia, 2 Europe, 1 Oceania

**Actions during 2021:**

Assess: 6 (KSR 6)

Network: 1 (KSR 1)

Communicate: 5 (KSR 12, 13)

**Overall achievement 2021–2025:**

