



**The IUCN Species
Survival Commission**

QUARTERLY REPORT
SEPTEMBER 2023

Content

3	Executive summary
7	Recent activities
8	Conferences and meetings
13	IUCN SSC Position Statement
16	Conservation measures and recommendations for further studies on Fireflies
20	Combating Wildlife Exploitation: SSC Workshops Foster Awareness in India's Biodiversity Hotspot
28	SSC DATA Information System: new setting
30	Who shapes the SSC?
32	New Centers for Species Survival
36	IUCN SSC Centers for Species Survival
51	SSC Partners

Cover Photo:

Bengal monitor (*Varanus bengalensis*) NT.
Photo © Vivek Dhiman on pexels.com

Code of Conduct Panel:

To report a violation of the CoC, please reach the Complaints and Appeals Panel through the following email address:
CodeOfConductConcerns@ssc.iucn.org



<https://www.iucn.org/ssc>



IUCN Species Survival Commission



@IUCNssc



@IUCNssc



@IUCNssc

Executive summary

We open the September 2023 SSC *Quarterly Report* with a quick overview of the activities of our team and intervention letters expressing concern for the trade in wild *Dendrobium* orchids in Indonesia, protection of the endangered savanna crab *Neostrengeria macropa* in Colombia, the possible closing down of vulture conservation breeding in India, and impact of hydropower dams on the Karnali River over Endangered Ganges River dolphins in Nepal.

Next, we move on to a major achievement of the SSC Network and our partners: publication of the *IUCN Species Survival Commission Position Statement on the Role of Botanic Gardens, Aquariums, and Zoos in Species Conservation*. Though the conception and initial steps in the production of this document go five or six years back, during the last three years Kris Vehrs, former Executive Director of the Association of Zoos and Aquariums (AZA), and Kira Mileham, SSC Director of Strategic Partnerships, led a deeply collaborative process that included feedback from the SSC Steering Committee and a public consultation that generated over 4,000 comments from more than 350 people. Currently available in [English](#), [Spanish](#), [French](#), [Chinese](#), [German](#) and [Portuguese](#), we look forward to future translations to other languages.

Two articles from our colleagues in India illustrate the dedication of the large SSC contingent in that country. Members of the [Firefly Specialist Group](#) commemorated World Firefly Day by organizing an International Firefly Webinar under the theme Firefly Congregation: Monitoring Population, Conservation of Landscape, and Ecotourism on 21 and 22 July 2023. With over 460 participants from 46 countries, they produced 17 recommendations to guide future efforts.

Shreya Bhattacharya and colleagues follow with the summary of a workshop aimed at creating awareness on combating wildlife exploitation in India, convened by the [Monitor Lizard Specialist Group](#) and partner organizations, and held in Srichandrapur Village, situated in the Birbhum district of West Bengal. In detail, the authors provide the background, objectives, methods, and outcomes of the workshop. Many congratulations for this excellent work!

The SSC DATA team presents a new feature in the SSC DATA Information System that allows to link the work of the SSC groups with other organizations and funders.

For a third time in a row, an SSC Leader was awarded the prestigious [Indianapolis Prize](#). The 2023 winner was Pablo García Borboroglu, Co-Chair of the [Penguin Specialist Group](#) and Founder and President of the Global Penguin Society. In a brief interview with our team, Pablo shares his experience as a winner, his work in SSC, and his outlook. Deep and sincere congratulations to Pablo, and looking forward to many more SSC members at the podium.

We close our *Quarterly Report* with two articles on the growing network of Centers for Species Survival. First, we welcome two new ones: Center for Species Survival Nigeria, in partnership with A. P. Leventis Ornithological Research Institute (APLORI), and Center for Species Survival India, in partnership with [Wildlife Trust of India](#). Finally, we hear from the remaining Centers and their extensive and varied activities. Once again, we express our deepest gratitude to all our partners, who help strengthen the SSC Network and make us more effective in assessments, planning and action for species conservation.

Resumen ejecutivo

Abrimos este *Informe trimestral* con una breve descripción de las actividades realizadas por el equipo de la presidencia, y las últimas cartas de intervención enviadas que expresan preocupación por el comercio de orquídeas silvestres (*Dendrobium*) en Indonesia, la protección del cangrejo de sabana (*Neostrengeria macropa*) en peligro de extinción en Colombia, el posible cierre del programa de conservación para la cría de buitres en India y, el impacto de las represas hidroeléctricas en el río Karnali sobre los delfines del río Ganges en peligro de extinción en Nepal.

Continuamos con un logro importante para toda la Red CSE y nuestros aliados: la publicación de la [Declaración de posición de la Comisión para la Supervivencia de las Especies de la UICN sobre el papel de los jardines botánicos, acuarios y zoológicos en la conservación de especies](#). Aunque la concepción y los pasos iniciales en la producción de este documento se remontan a cinco o seis años atrás, durante los últimos tres años Kris Vehrs, ex Directora Ejecutiva de la Asociación de Zoológicos y Acuarios (AZA), y Kira Mileham, Directora de Asociaciones Estratégicas de la CSE, lideraron un proceso profundamente colaborativo que incluyó comentarios del Comité Directivo de la CSE y una consulta pública que generó más de 4000 comentarios de más de 350 personas. Actualmente disponible en [inglés](#), [español](#), [francés](#), [chino](#), [alemán](#) y [portugués](#), esperamos futuras traducciones a otros idiomas.

Dos artículos de nuestros colegas de la India ejemplifican el compromiso del extenso grupo la CSE en ese país. Los miembros del [Grupo de especialistas en Luciérnagas](#) conmemoraron el Día Mundial de esta especie organizando un seminario web internacional bajo el tema “Monitoreo de la población, conservación del paisaje y ecoturismo” los días 21 y 22 de julio de 2023. Con más de 460 participantes de 46 países, produjeron 17 recomendaciones para guiar los esfuerzos futuros.

Shreya Bhattacharya y sus colegas presentan el resumen de un taller destinado a crear conciencia sobre la lucha contra la explotación de la vida silvestre en la India, convocado por el [Grupo de](#)

[Especialistas en Lagartos Monitores](#) y organizaciones asociadas, y celebrado en Srichandrapur Village, situado en el distrito Birbhum de Bengala Occidental. En detalle, los autores proporcionan los antecedentes, objetivos, métodos y resultados del taller. ¡Muchas felicidades por este excelente trabajo!

El equipo del SSC DATA presenta una nueva característica en el Sistema de Información que permite vincular el trabajo de los grupos de la CSE con otras organizaciones y financiadores.

Por tercera vez consecutiva, un líder de la CSE recibe el prestigioso [Premio Indianápolis](#). El ganador fue Pablo García Borboroglu, copresidente del [Grupo de Especialistas en Pinguinos](#) y fundador y presidente de la *Global Penguin Society*. En una breve entrevista con nuestro equipo, Pablo comparte su experiencia como ganador, su trabajo en la CSE y sus puntos de vista en relación a la conservación. Felicitaciones profundas y sinceras a Pablo, y esperamos que muchos más miembros de la CSE suban al podio.

Cerramos nuestro *Informe Trimestral* con dos artículos sobre la creciente red de Centros para la Supervivencia de Especies. En primer lugar, damos la bienvenida al Centro para la Supervivencia de Especies de Nigeria, en asociación con el Instituto de Investigación Ornitológica A. P. Leventis ([APLORI](#)), y al Centro para la Supervivencia de Especies de la India, en asociación con [Wildlife Trust of India](#). Finalmente, podremos leer sobre las variadas actividades en desarrollo por los demás Centros. Una vez más, expresamos nuestro más profundo agradecimiento a todos nuestros aliados, que ayudan a fortalecer la Red CSE y nos permiten fortalecer nuestro desempeño en la evaluación, planificación y acción para la conservación de especies.

Résumé

Nous ouvrons le *rapport trimestriel* de la CSE de Septembre 2023 avec un aperçu rapide des activités de notre équipe et des lettres d'intervention exprimant notre inquiétude concernant le commerce des orchidées sauvages *Dendrobium* en Indonésie, la protection du crabe de savane en voie de disparition *Neostrengeria macropa* en Colombie, l'éventuelle fermeture du vautour. l'élevage de conservation en Inde et l'impact des barrages hydroélectriques sur la rivière Karnal sur les dauphins du Gange, une espèce en voie de disparition, au Népal.

Nous passons ensuite à une réalisation majeure du réseau CSE et de nos partenaires: la publication de la [déclaration de position de la CSE de l'UICN sur le rôle des jardins botaniques, des aquariums, et les zoos dans la conservation des espèces](#). Bien que la conception et les premières étapes de la production de ce document remontent à cinq ou six ans au cours des trois

dernières années. Kris Vehrs ancien Directeur Exécutif de l'Association des Zoos et Aquariums (AZA), et Kira Mileham, Directrice des partenariats stratégiques de la CSE, a mené un processus profondément collaboratif qui comprenait les commentaires du comité directeur de la CSE et une consultation publique qui a généré plus de 4000 commentaires de la part de plus de 350 personnes. Actuellement disponible en [anglais](#), [espagnol](#), [français](#), [chinois](#), [allemand](#) et [portugais](#), nous attendons avec impatience de futures traductions dans d'autres langues.

Deux articles de nos collègues indiens illustrent le dévouement de l'important contingent de la CSE dans ce pays. Les membres du [groupe de spécialistes des lucioles](#) ont commémoré la Journée mondiale des lucioles en organisant un webinaire international sur les lucioles sous le thème Congrégation des lucioles : surveillance de la population, conservation du paysage et écotourisme les 21 et 22 juillet 2023. Avec plus de 460 participants de 46 pays, ils ont produit 17 recommandations pour guider les efforts futurs.

Shreya Bhattacharya et ses collègues suivent avec le résumé d'un atelier visant à sensibiliser à la lutte contre l'exploitation de la faune en Inde. organisé par le [groupe de spécialistes des varans](#) et des organisations partenaires et organisé dans le village de Srichandrapur. situé dans le district de Birbhum au Bengale occidental. En détail, les auteurs fournissent le contexte, les objectifs, les méthodes et les résultats de l'atelier. Un grand bravo pour cet excellent travail !

L'équipe SSC DATA présente une nouvelle fonctionnalité dans le système d'information SSC DATA qui permet de relier le travail des groupes CSE avec d'autres organisations et bailleurs de fonds.

Pour la troisième fois consécutive, un leader CSE a reçu le prestigieux [Prix d'Indianapolis](#). Le lauréat 2023 était Pablo García Borboroglu, co-président du [groupe de spécialistes penguin](#) et fondateur et président de la *Global Penguin Society*. Dans une brève entrevue avec notre équipe, Pablo partage son expérience de gagnant, son travail au sein de PVC et ses perspectives. Félicitations profondes et sincères à Pablo et j'attends avec impatience de voir de nombreux autres membres du CSE sur le podium.

Nous clôturons notre *rapport trimestriel* avec deux articles sur le réseau croissant de centres pour la survie des espèces. Tout d'abord, nous accueillons deux nouveaux : Centre for Species Survival Nigeria, en partenariat avec A P. Leventis Ornithological Research Institute ([APLORI](#)) et Center for Species Survival India, en partenariat avec [Wildlife Trust of India](#).

Enfin, nous entendons les témoignages des autres centres et de leurs activités vastes et variées. Une fois de plus, nous exprimons notre profonde gratitude à tous nos partenaires, qui contribuent à renforcer le réseau de la CSE et nous rendent plus efficaces dans l'évaluation, la planification et l'action pour la conservation des espèces.

Recent activities



CONFERENCES

Where the SSC chair's office attended or offered a lecture.



MEETINGS

Where the SSC chair's office participated.



INTERVENTIONS

Letters sent to Governments or Companies to propose actions for species and habitats under threat.



WORKSHOPS

Organised by the SSC chair's office or where the SSC chair's office participated.





Meeting with David Cooper at Secretariat of the CBD.
Photo ©IUCN SSC

Conferences and meetings

(Jon Paul Rodríguez, JPR; Rima Jabado, RJ; Kira Mileham, KM; Nahomy De Andrade, NDA; Edgard Yerena, EY; Levi Mendoza, LM; Jafet Nassar, JN; Aritzaith Rodríguez, AR; Mayerlin Ramos, MR; Milangela Dell'Aquila, MDA; Simeon Bezeng, SB; Nicole Duplaix, ND)

CONFERENCES

- *Uno y el Universo: Amenaza a la biodiversidad, una mirada optimista*, Amautas, Santiago de Compostela, Spain. 4 July 2023, virtual (JPR).
- *SSC Chair's Team Report*, Cambridge IUCN team, Cambridge, U.K. 13 July 2023 (JPR).
- *Collaborative action planning for the yellow-shouldered Amazon across its range in the southern Caribbean and mainland Venezuela: 2022-2031*, 31st International Congress for Conservation Biology (ICCB 2023), Kigali, Rwanda. 25 July 2023 (JPR)
- *Sabemos hacer conservación, solo debemos hacerla más, Coloquio: La conservación dos siglos*

después de Alexander von Humboldt, Festival aniversario 74 años Asociación Cultural Humboldt, Caracas, Venezuela. 25 July 2023, video presentation (JPR).

- *We know how to do conservation – we just need to do more of it! And better!* Northern Arizona University Olajos Goslow guest lecture, Flagstaff, Arizona, USA, 20 September 2023 (JPR).
- *Esfuerzos colaborativos de conservación de especies en América del Sur. Los Centros para la Supervivencia de Especies y su papel como catalizadores de alianzas intersectoriales que movilizan redes nacionales.* Science Summit at the 78 United Nations General Assembly. New York, USA, 26 September 2023, virtual (NDA).
- *Mobilizing National Networks to Contribute to CBD Targets.* Science Summit at the 78 United Nations General Assembly. New York, USA, 27 September 2023, virtual (NDA, KM).
- *Supporting implementation of the Global Biodiversity Framework.* Discussion Panel. Science Summit at the 78 United Nations General Assembly. New York, USA, 28 September 2023, virtual (JPR, NDA).
- *The problem of conservation of ecosystems*, Diálogos Humboldt: Los retos ambientales a la luz de sus aportaciones, Centro de Extensión Universitaria e Divulgación Ambiental de Galicia, La Coruña, Spain. 26 September 2023 (JPR).

MEETINGS

- *2023 World Land Trust Partners' Symposium*, Cambridge, U.K., 13 July 2023 (JPR).
- *KBA Committee Meeting 15*, Cambridge, U.K. 17-19 July 2023 (JPR).
- *Convention on the Conservation of Migratory Species of Wild Animals (CMS) Scientific Council*, Bonn, Germany. 18–21 July, 2023 (RJ).
- *31st International Congress for Conservation Biology (ICCB 2023)*, Kigali, Rwanda. July 23-27, 2023 (SB, JPR).
- *Convention on the Conservation of Migratory Species of Wild Animals (CMS) Marine Megafauna Week*, Saly, Senegal. 4–7 September, 2023 (RJ).
- *The Rufford Foundation Namibia Learning Event*, Otjiwarongo. Namibia 13-17 September 2023 (SB).
- *Wildlife Scientific Conference*, Naivasha, Kenya. 26-28 September 2023 (SB).
- *Michael I. Crowther Indianapolis Prize Conservation Forum*, Indiana Historical Society, Indianapolis, Indiana, USA. 28 September 2023 (JPR).
- *Indianapolis Prize Gala*, Indianapolis, Indiana, USA. 30 September 2023 (JPR).

WORKSHOPS

- *ReShark workshop*, Seattle, USA. 30 July–August 4, 2023 (RJ).
- *IUCN Eastern and Southern Africa Regional Office and Commissions Strategic Workshop*, Pretoria, South Africa. 24 August 2023 (SB).

- *Climate Resilience for Critical Sites for Migratory Birds and People along the East Atlantic Flyway Darkar, Senegal* 13-14 July 2023 (SB).
- Rufford Foundation Namibia Learning Event, 13-17 September 2023, Otjiwarongo, Namibia (SB).

INTERVENTION LETTERS AND STATEMENTS

- **Concern about emerging export in wild *Dendrobium* orchids in Indonesia.** The SSC Chair and its Orchid Specialist Group (OSG) sent a letter on July 28, 2023, to corresponding Indonesian authorities, the Director of the Secretariat of Scientific Authority for Biodiversity (National Research and Innovation Agency), and the Director of the Directorate of Biodiversity Conservation of Species and Genetic (Ministry of Environment and Forestry), raising SSC's concern about emerging export in wild *Dendrobium* orchids. Indonesia is globally significant for its orchids. Its flora has approximately 800 species of *Dendrobium*. Through sources including OSG members based in Indonesia, and information gathered from postings on social networks, it is the orchids in the genus *Dendrobium* which are being commercially harvested and traded in Indonesia, likely for export as medicinal plants for use as *shi hu* products in traditional Chinese medicine. Worryingly, this trade seems to have suddenly and significantly emerged over the past few months. All *Dendrobium* orchids in Indonesia are listed on CITES Appendix II, and nine Indonesian species are assessed as being globally threatened on the IUCN Red List of Threatened Species. SSC's Chair encourages Indonesian authorities to Communicate with the Chinese CITES Authorities about this trade, and the need for their vigilance in considering shipments of orchids from Indonesia. Also, to engage with BKSDA, KSDAE, Gakkum and Customs about this new trade and share information on the types of products that are being transported, as we recognise that plant trade is not always prioritized, and plant identification can be challenging. Also suggest increasing inspection of social networks-based trade, notably Facebook, where this trade is occurring in public online spaces, and alert the CITES Secretariat to increase awareness about international orchid trade affecting Parties, as these issues have historically not received much attention. IUCN SSC, and particularly the expertise contained within the Orchid Specialist Group, stand ready to provide advice and technical assistance on this issue as needed.
- **Protection of the endangered savanna crab, *Neostrengeria macropa*, in Colombia.** A joint letter signed by IUCN's SSC and CEM Chairs, as well as by the Chairs of the SSC Freshwater Conservation Committee, SSC Freshwater Crustacean Specialist Group and CEM Wetland Ecosystems Specialist Group, was sent on 31 July 2023 to the Minister of Environment and Sustainable Development of Colombia, raising the concern about the need to protect the endangered savanna crab, *Neostrengeria macropa*. SSC and CEM have followed the discussion about the proposed expansion of an urban project in La Calera, near Bogotá, that will destroy part of the habitat of this endangered endemic species. Its original habitat was eliminated and replaced by buildings and urban sprawl, and many of the streams on which it depends have now been converted to drainage channels. *Neostrengeria macropa* was categorized as Vulnerable by Colombia's Ministry of Environment and listed as endangered in the Red Book of Freshwater Crabs of Colombia (2015). The letter raised their concerns about the impact of the project on this species as well as on the very important and vulnerable freshwater ecosystems and proposed the implementation of a conservation action plan aimed

at the protection of this nationally endangered endemic savanna crab. Particularly, suggest focusing on La Innominada Creek which is directly threatened by the proposed project that would completely drain the creek. If the project goes ahead, these crabs will no longer be found there. SSC and CEM strongly urge that a conservation strategy be developed by a group composed of freshwater specialists, the local community, the local authorities, and the contractor, that will protect La Innominada Creek, its associated watershed, and the threatened savanna freshwater crab that lives there.

- **Concern on the possible closing down of the famous vulture conservation breeding programme of India.** On August 2, 2023, the SSC Chair sent a letter to the Minister for Environment, Forest and Climate Change of the Republic of India to express its concerns about the possible closing down of such *ex situ* conservation programme involving three vulture species, listed on the IUCN's Red List as Critically Endangered, and advising strongly against that. The SSC stresses that *in situ* conservation actions to protect wild vultures are essential, but need to be closely linked with the conservation breeding programme. Therefore, it would be risky at present to disregard the continuing need for the 'ark' populations in captivity. It is well-established that the main cause of the unprecedented and drastic vulture declines across South Asia (over 99.9% lost for the white-rumped vulture, *Gyps bengalensis*), was the veterinary use of the toxic non-steroidal anti-inflammatory drug (NSAID) diclofenac. The Government of India has great credit for its ban on veterinary use, but it is being widely sold illegally for use on cattle in several Indian states. Of even more concern is that the sales of other legally approved vulture-toxic veterinary drugs (primarily aceclofenac, nimesulide and ketoprofen) are increasing. It has been recommended the establishment of captive holding and captive breeding facilities for the three species of Critically Endangered *Gyps* vultures in South Asia, in conjunction with implementing a ban on veterinary use of diclofenac. This was reinforced by the Indian Government Vulture Action Plan of 2006 and further emphasized in the updated plan of 2020. The purpose of these centers was intended to secure viable self-sustaining captive populations of the species in case they become extinct in the wild and as a source for future reintroductions of the birds after removal of the threat from diclofenac in the environment. In the letter, the SSC Chair suggests a number of steps so that India can maintain its admirable reputation for decisive action on the conservation of Asian vultures. On August 8, a detailed reply was received from the president of the Bombay Natural History Society (BNHS), copied in the letter. The SSC Chair encourages holding personal meetings, encompassing discussion on both *ex situ* and *in situ* strategies and will be happy to convene one, involving representatives of the Government of India (MoEFCC and the drug regulatory authorities), BNHS, IUCN India, RSPB and SAVE, in the confidence that solutions can be found.
- **Letter of Concern Regarding Hydropower Dams on the Karnali River and Endangered Ganges River Dolphins in Nepal.** The Chair of the IUCN SSC Cetacean Specialist Group (CSG) of the Species Survival Commission sent a letter to the Supreme Court of Nepal, on 13 August 2023, expressing concern regarding the construction of a number of Hydropower Dams on the Karnali River and its impacts on Endangered Ganges River Dolphins. The CSG understands the immediate benefits of such developments for the growth of the Nepalese economy, however, it has to be acknowledged the long-term negative impacts of these structures on the ecology of the Karnali River and surrounding areas, which must be taken into consideration. The negative impact of hydroelectric or diversion dams on river dolphins is well documented in several parts of the world, including India. Nepal is in the unique position of having freshwater dolphins

in its lowland rivers, and the Ganges dolphin population in the Karnali River is the largest and the most important dolphin population in Nepal. This species is recognized by IUCN as globally Endangered and declining, and the water diversion and habitat alteration resulting from the planned hydropower dams will eliminate Ganges River dolphins, irreversibly, from Nepal's Karnali River system. CSG commends the Supreme Court to take into consideration that before any plans for construction and operation of the dams are approved, the following measures should be taken: (1) a comprehensive environmental impact assessment focusing on flow-ecology relationships that explicitly includes potential downstream impacts on Gangetic dolphins of the dams both individually and cumulatively; (2) a river basin approach be taken towards managing water development in the Karnali Basin such that efforts to conserve Gangetic dolphins in one area are not undermined by dam construction in another area; and (3) if the anticipated impacts of one or more of the dams are judged to be severe and cannot be reduced to acceptable levels, then the option of not constructing them be considered. Retaining the Karnali River as one of the few remaining free-flowing rivers in Asia will have long-term benefits for both people and nature.



Przewalski's horse, (*Equus ferus przewalskii*) EN.
Photo © Kira Mileham

IUCN SSC Position Statement on the Role of Botanic Gardens, Aquariums and Zoos in Species Conservation

Botanic gardens, aquariums and zoos have been part of IUCN since the Union's creation at Fontainebleau on 5 October 1948, and they continue to be essential partners of the SSC and critical to the survival efforts of many species. Despite growing commitment and evidence of impact across their diverse roles in species conservation, these institutions managing species ex situ often continue to struggle against misconceptions or lack of awareness about their roles and expertise, and the reputational damage caused by other low-standard institutions around the world.

Over the past three years the SSC Chair's Office have led, with the support of Kris Vehrs, former Executive Director of the Association of Zoos and Aquariums (AZA), a deeply collaborative process to produce the *IUCN Species Survival Commission Position Statement on the Role of Botanic Gardens, Aquariums, and Zoos in Species Conservation*. Working groups of experts from across the species conservation sector contributed to the drafting of the document. The SSC leadership and Steering Committee refined the draft before opening it for public consultation in early 2023, resulting in over 4,000 comments from more than 350 people.



The purpose of the document is threefold, 1) to outline SSC's position on the roles played by these institutions in the conservation of species and their genetic diversity, 2) to urge all these institutions to achieve their potential in ensuring that animals, fungi and plants thrive in the wild, and 3) to encourage the global species conservation community to work in a collaborative and integrated fashion towards reversing biodiversity declines.

SSC's Position on the Role of Botanic Gardens, Aquariums and Zoos in Species Conservation:

The IUCN Species Survival Commission (SSC) recognises the significant contributions that botanic gardens, aquariums and zoos can, and do, bring to conserving wild animals, fungi and plants.

SSC values the key roles that botanic gardens, aquariums and zoos can, and do, play at the intersection between ex situ and in situ conservation. These roles span applied genetic, behavioural and veterinary science, husbandry, wildlife reintroduction and translocation, research, education and community engagement, policy development, access to nature-based experiences and conservation funding. SSC also believes that there is opportunity and interest to increase participation in these roles.

SSC urges all botanic gardens, aquariums and zoos to meet their conservation potential and to work as valued members of a well-integrated conservation community to ensure the survival and health of wild populations of animals, fungi and plants.

Finally, SSC encourages all its partners including government agencies to collaborate with botanic gardens, aquariums and zoos in the collective work of saving species through the One Plan Approach.

The document also includes a rationale behind the Statement, along with a list of examples of roles botanic gardens, aquariums and zoos can, and do, fulfill in the conservation of wild species. This SSC position statement directly contributes to the implementation of [WCC-2020-Res-079](#) on linking *in situ* and *ex situ* efforts to save threatened species. It also complements similar positions taken by [CITES](#) and by CBD through the [Global Strategy for Plant Conservation](#) and through the explicit reference to *ex situ* in the new Target 4 of the [Global Biodiversity Framework](#).

Jon Paul Rodríguez, SSC Chair, puts the Position Statement in context, *“Although it is clear that ex situ approaches are a fundamental element in our conservation toolbox, we must always keep in mind that our ultimate purpose is to assure that all animals, fungi and plants thrive in nature, coexisting with humans in a gradient from urban settings and human dominated landscapes to remote, pristine locations where people’s influence is barely detectable.*

Biodiversity is everywhere we look, and I believe that we must assure that there is ample room for all of us on Earth. Botanic gardens, aquariums and zoos remind us that we know how to do conservation, we just need to do more of it.”

The SSC Position Statement is also welcomed by **IUCN President, Razan Al Mubarak**, who has been personally involved in efforts to reverse population declines and improve the conservation status of species. *“The inspiring success stories I have seen give me hope. It is never too late. Species can recover in the wild, if given a chance in well-managed captive populations such as those maintained by zoos, botanic gardens and aquaria.*

The IUCN Species Survival Commission Position Statement on the Role of Botanic Gardens, Aquariums, and Zoos in Species Conservation recognizes the leading role that these organizations already play in the science and practice of conservation, and invites others to reach their full potential, working alongside governments and key partners to collectively achieve IUCN’s One Plan Approach.”

For further information on the position statement or to review the feedback received during the public consultation and the team’s corresponding responses please contact SSC@iucn.org or kira.mileham@ssc.iucn.org.





Fireflies (Coleoptera: Lampyridae)
Photo © Terry Priest

Conservation measures and recommendations for further studies on Fireflies

India marked the occasion of World Firefly Day in 2023 by organizing a global webinar.

Parvez, A K Chakravarthy

IUCN SSC Firefly Specialist Group members

The Environmental Management and Policy Research Institute (EMPRI), Bengaluru, commemorated World Firefly Day by organising an International Firefly Webinar under the theme Firefly Congregation: Monitoring Population, Conservation of Landscape, and Ecotourism on 21 and 22 July 2023. Over 460 participants from 46 countries attended the webinar. EMPRI has undertaken a project on fireflies that aims to understand their ecology, diversity and abundance in Karnataka state and to develop a breeding protocol.

The event was conducted in association with the [SSC Firefly Specialist Group](#) and facilitated by the [Entomological Society of America](#), the [University of Agricultural Sciences](#), and [The Naturalist School](#).

Director General, EMPRI, Dr Jagmohan Sharma IFS, inaugurated the webinar and in his address, stressed firefly conservation by protecting their natural habitat. He discussed the threat to fireflies

from habitat loss, light pollution, pesticide use, and overharvesting. Dr A K Chakravathy, Research Scientist, EMPRI, moderated the webinar. The webinar covered a wide range of topics on fireflies globally in areas of research, awareness and conservation like biology, bioluminescence, diversity – distribution, ecotourism, monitoring, protection and conservation, taxonomy, aspects of firefly congregations, threats and mitigations.



The webinar provided an opportunity for a wide variety of stakeholders, particularly young researchers and students, foresters, and naturalists, to enhance awareness and knowledge base on firefly ecology, entomotourism, bioluminescence, monitoring, threats and conservation of firefly congregations and landscapes. The close relationship between indigenous communities and ecotourism was explored in the webinar. For instance, case studies in India (Manipur and Maharashtra), Sri Lanka, Spain, Malaysia, China, and Thailand were presented. Awareness programmes like *Keeping Fireflies at Home* and *Firefly Ecological Line in China* were shared.

Among the distinguished speakers to the webinar were Dr Lesley Ballantyne, Charles Sturt University, Australia; Dr Oliver Keller, Florida Museum; Prof Christopher Cratsley, Fitchburg State University, USA; Prof Jeremy Niven, University of Sussex, UK; Dr Dammika Wijekoon, University of Ruhuna, Sri Lanka; Dr Ramón Guzmán, Spain; Dr Sergio Henriques, Invertebrate Conservation Coordinator at the IUCN SSC Global Center for Species Survival, Indianapolis Zoo, Indiana; Dr Devanshu Gupta, Zoological Survey of India; Prof Anurup Gohain Barua, Guwahati University; Ms Veronica Khoo, Forest Research Institute Malaysia (FRIM), Malaysia; Ms Ping Lei, China Biodiversity Conservation and Green Development Foundation, China; Dr. Amlan Das, University of Calcutta and Dr V P Uniyal, Wildlife Institute of India and others.

Biologists presented results on the evolution of behaviour, biochemistry, flashing patterns, bioluminescence, and affinities of fireflies. The deliberation involved discussions via question-and-answer sessions. Last year, an international webinar on fireflies was conducted by EMPRI on 22 July 2022 with the theme *Firefly, Ecology and Environment*.

Recommendations presented in the webinar

- There is a need to organize a firefly taxonomic workshop and hands-on-training, especially for firefly researchers and scholars from South-West and South-East Asian countries.
- Endangered species of fireflies, jewel beetles, lyctids, stag and dung beetles that are crucial for ecosystem functioning and whose populations are on the decline across countries should be provided legal protection.
- A policy for traffic and public light in areas of firefly congregations should be promulgated to mitigate the impact of artificial light at night (ALAN) on firefly congregations and populations.
- Injudicious use and application of pesticides and other chemicals should be banned or regulated at a certain level as it affects not only fireflies but also other biodiversity elements.
- Berembeng tree (*Sonneratia caseolaris*), Indian almond (*Terminalia catappa*), Red silk-cotton tree (*Bombex ceiba*), Areca nut (*Areca cathechu*), Rubber (*Hevea braziliensis*), and Ficus sp. are the preferred firefly courtship display trees which are being commercially exploited. This practice should be banned.
- Biotic factors that influence fireflies the most are the presence of suitable trees for courtship and food (snails, nectar and sap), vegetation health and the absence of tree species having insecticide properties (saponins). Abiotic factors like water level in soil, air temperature and humidity, rainy seasons, altitude, wind direction and speed and air pollution also influence firefly populations and need to be considered by developing conservation plans.
- Techniques and approaches for studying, monitoring and conserving firefly congregations were highlighted in the webinar and emphasis was laid on their standardization and use. The firefly workers should update their approaches and study plans before initiating studies on fireflies.
- Dr Oliver Keller, Florida Museum, USA, is compiling the World Firefly Checklist, and it was urged that workers and researchers should coordinate and help him in updating the checklist.
- Research on subfamilies such as Ototretinae and Lampyrinae needs special attention, especially in South West and South Eastern countries.
- Firefly workers are actively monitoring and estimating the population at several places in Karnataka and capturing images using software and models to gain insight into firefly emergence and congregation. This should be further encouraged.
- Awareness about initiatives like EMPRI – Firefly Asia-Pacific Network, IUCN SSC Firefly Specialist Group, Fireflyers International Network, Firefly Biopark in China, and Mexico that are actively coordinating for protecting fireflies, creating public awareness and taking conservation issues forward, should be promoted.
- India holds 58% of firefly endemics out of 86 species listed so far. This emphasizes the need to accord priority to those forest areas in India while developing conservation plans.
- Dr Oliver Keller pointed out that there is a wide gap from 1850 to the 1980s on firefly research in India. This reveals there is an immediate need for studying fireflies.
- Island countries like Sri Lanka and Maldives might have held species from the mainland/Deccan plateau of India, which may serve as a gene pool. So, emphasis with regard to the conservation of species and

landscapes in India is crucially important.

- Estuaries, river banks and mangroves need immediate and special attention for firefly conservation globally, as these are very fragile and are being put to commercial uses such as beach resorts, ecotourism, sand mining and settlement of fishermen communities. These habitats must receive priority in conservation.
- The major threats to fireflies include: habitat loss, pesticide use, invasive species, climate change, artificial lights at night, unplanned urbanization, human interference and habitat fragmentations, and water pollution.
- The following conservation actions are necessary: Fireflies should be declared as a protected species group under the law, large-scale *in-situ* and *ex-situ* conservation should be encouraged, more research and outreach activities should be undertaken to create awareness, and Firefly habitats having tourist potential should be declared Protected Habitats (Firefly Sanctuary or conservation reserve) in Karnataka..

A huge thanks!

The organizers are thankful to the Director General, Director, EMPRI and Coordinator (EMPRI Malleshwaram) for encouragement and facilities. The SSC Firefly Specialist Group provided an internal grant and facilitated the event. We are also thankful to the Entomological Society of America, University Agricultural Sciences, GKVK, Bangalore, The Naturalist School, and Ms Priyanka S, Mr Shivkumar, Ms Hema K, Ms Rashmy Swamy, Mr Krishnadas K M for their support to the webinar.



Bengal monitor (*Varanus bengalensis*) NT.
Photo © Vivek Dhiman on pexels.com

Combating Wildlife Exploitation: SSC Workshops Foster Awareness in India's Biodiversity Hotspot

The unsustainable utilization and exploitation of natural resources, especially wildlife, pose a significant threat to global biodiversity. This issue is particularly pronounced in densely populated countries endowed with rich biodiversity, such as India. In response to this pressing concern, the SSC Monitor Lizard Specialist Group took proactive steps to address the challenge through two awareness-building workshops. These workshops, conducted in collaboration with the Srichandrapur Prabhat Rabi Seba Sangha and the Green Plateau Organization, focused on wildlife exploitation and conservation.

Shreya Bhattacharya^{1,8}, Kumar Nishant², Aritri Chatterjee³, Rabi Das⁴, Santanu Mahato^{3,5,6}, Mark Auliya^{1,7} and André Koch^{1,7}

1- IUCN SSC Monitor Lizard Specialist Group

2- Centre for Journalism and Mass Communication, Visva Bharati University, Shantiniketan, West Bengal 731235, India

3- Green Plateau Organization, Hatirampur, Bankura, West Bengal 722121, India

4- Srichandrapur Prabhat Rabi Seba Sangha, Birbhum, West Bengal 731236, India

5- Salim Ali Centre for Ornithology and Natural History, Anaikatty Post, Coimbatore 641108, Tamil Nadu, India

6- Biopsychology Laboratory, Institution of Excellence, University of Mysore, Mysuru 570006, Karnataka, India

7- Museum Koenig, Leibniz Institute for the Analysis of Biodiversity Change, Adenauerallee 160, 53113 Bonn, Germany

8- Corresponding author: bshreya93@gmail.com

On 9 June 2023, a series of enlightening workshops unfolded in Srichandrapur Village, situated in the Birbhum district of West Bengal, India. The choice of this location was strategic, given the region's high biodiversity and the prevalence of wildlife-related challenges. Their primary objective was to instill a widespread awareness among the Santhal tribal villagers regarding the critical importance of biodiversity and wildlife conservation.

Background of the Awareness Workshops: Exploitation of local wildlife by the traditional Santhal tribes of West Bengal

India is the seventh largest country by area, the second-most populous as well as one of the 17 mega diversity countries of the world (Shi *et al.* 2005). However, this tremendous species richness is threatened by around 1.4 billion inhabitants, which is roughly 16% of the global human population (Prasad *et al.* 2002). Consequently, there is an enormous anthropogenic pressure on the various habitats and wildlife species, for instance, through degradation of wetlands and exploitation of local wildlife for bushmeat consumption or the illegal trade of its products (Prasad *et al.* 2002, Sahajpal *et al.* 2009, Bhupathy *et al.* 2013).

The Santhals are one of the ancient and the most widely spread tribes of India, inhabiting several parts of the country including West Bengal (Guha and Ismail 2015, Ghosh-Jerath *et al.* 2016). They are known to commonly utilize various wildlife species such as monitor lizards, jungle cats, jackals, pigeons, storks, among many others for various purposes such as bushmeat, traditional medicines, and witchcraft (Ghosh *et al.* 2013). Valuable habitats and their wildlife are severely threatened due to the rapid increase in modernization, followed by the conversion of forested lands and the destruction of wetlands (Eigenbrod *et al.* 2008, Scanes 2017). Moreover, a presumed unsustainable use of local wildlife by the Santhal tribal villagers may result in a sharp decline and fragmentation of populations in these regions.

The Santhal awareness workshops are the extension of the SSC Monitor Lizard Specialist Group Project *Local Utilization of Wildlife Species, especially Monitor Lizards, in Santhal tribal villages of Birbhum, West Bengal, India*. During 2021-2022, the SSC Monitor Lizard Specialist Group conducted a study on the documentation and perception of local wildlife utilizations in five Santhal tribal villages, namely Ghoshal Danga, Bishnubati Adivasi Para, Bandlo Danga, Panchaban Pur, and Ballabpur Danga in the Birbhum district of West Bengal, through documentation and semi-structured questionnaire surveys. The results of this initial study, which are yet to be published, demonstrated various examples of the local and medicinal use of wild animals. The Santhals are also known to have an annual traditional hunting festival called "Sakrat" in Santhali language, where the men form groups, carry their weapons and hunt together in nearby forest fragments. From our findings, the Santhals hunt any wild animals that they encounter such as palm squirrels, civets, hares, wild boars, birds -- such as pigeons, kingfishers, owls, and doves -- jungle cats, and especially monitor lizards.

Among the four species of monitor lizards that are native to India, i.e., the bengal monitor (*V. bengalensis*), the yellow monitor (*V. flavescens*), the common water monitor (*V. salvator*), and the desert monitor (*V. griseus*) (Koch *et al.* 2013), the former two were recorded among the local use in these tribal villages. All four species are nationally protected in Schedule 1, Part II of the Wildlife (Protection) Act of India, 1972; the yellow monitor is evaluated

“Endangered”, the bengal monitor, “Near Threatened”, while the global population trends of both species are “decreasing” according to their IUCN Red List assessments (Sharma *et al.* 2018, Das *et al.* 2021, Cota *et al.* 2021). Moreover, body parts of monitor lizards are involved in illegal trade activities, for example, “Hatha Jodi” (i.e., the genitalia of monitor lizards called hemipenes) traded as “plant roots”, which are used in astrology and witchcraft in various parts of the country (Bhattacharya and Koch 2018, D’Cruze *et al.* 2018, Sharma *et al.* 2019).

Objectives of the Awareness Workshops

The main aim of our workshops was to inform and educate tribal villagers about the importance of wildlife conservation and its habitats and to make them aware of the effects of unsustainable use of biodiversity, thus highlighting the consequences for local human populations. In the following, the specific targets are listed:

1. To explain the importance of the village ecosystems, such as the various surrounding wetlands (e.g., marsh, permanent and temporary water bodies), monsoon forests, and forest fringes for the preservation of local biodiversity.
2. To provide a clear picture about the ecological role of monitor lizards as large reptilian predators and scavengers (e.g., their trophic niche occupation) and why they need to be conserved.
3. To encourage and motivate the children and youth to be responsible and to question current exploitation levels for domestic use and hunting festivals of wildlife species in their area.
4. To discuss the reasons and perceptions of utilizing wildlife species for food and/or medicines as well as possible mitigative measures to avoid such situations in the future.

Methodology of the Workshops

Two workshops were conducted with Santhal villagers: one for the children between 3 and 15 years old during the morning and another for all the adult tribal villagers in the evening of 9 June 2023. Srichandrapur was chosen as the venue, since it is located in the middle of the five tribal villages, and hence it was easier for the villagers to attend the workshops. Flex banners were printed in both English and Bengali, so that the villagers could get an idea about the topic. A day before the event, all five villages were visited by us and the inhabitants were personally invited to attend the workshops. The Santhals are usually shy and not comfortable interacting with strangers, but since we have worked in these villages for the past two years, it was easier to arouse their curiosity and convince them to take part.



Figure 1: Workshop flex banners in English and Bengali.

The evening workshop began with opening speeches from the Santhal tribal village leaders, who explained the importance and the theme of the event in Santhali language to the audience. The Santhals of Birbhum speak in their traditional language (Majhi 2001, Guha and Ismail 2015), but can also understand the regional Bengali language (SB, personal observation). The workshops consisted of two sessions: (1) the presentation and the (2) interaction session.

- 1. Presentation Session:** A power point presentation of 45 minutes was shown in both workshops, which initially consisted of images from the five villages in order to engage the audience for a better understanding and attention. Then, the importance and concept of “wildlife conservation” was introduced to the Santhal villagers. Various images of habitats (see above) including agro ecosystems harboured by local wildlife species, such as monitor lizards, were shown. The differences between farmed and wild species were explained and the effects of hunting festivals on the wild populations were also described in the presentations. Images that show examples of the domestic use of *Varanus spp.* from the villages such as “monitor oil”, “dried skin”, as well as of other species such as tortoise/turtle shells were also presented. In addition, images of local weapons used by the hunters, such as bow and arrow, catapult, spears, and death traps were shown. These images were used to explain the unsustainable domestic use of wildlife and its detrimental impact on ecosystems and the consequences for humans such as the transmission of zoonotic diseases. Examples of zoonoses include the worldwide pandemic COVID-19 and Rabies which were familiar to the villagers.
- 2. Interaction Session:** After the presentation session, the Santhal tribal villagers, including the hunters were asked to express their opinions and views about our workshop as well as about the concept of unsustainable domestic use of wildlife.



Figure 2: The workshop presentation is given by the first author.



Figure 3: Santhal tribal children and women with the workshop banner.

Outcomes and Experiences of the workshops

According to the Santhals, it was for the first time that such wildlife awareness workshops have taken place in these remote tribal villages. Fifty children attended the morning workshop session and around 100 tribal villagers participated in the evening workshop despite extreme temperatures of 40 degree Celsius. The children were excited to learn about the habitats and ecology of wildlife around them. In the beginning of the morning workshop session, the children were asked how many of them regularly consume “torhorr” (i.e., monitor lizard in Santhali language) to which most of them said “yes”. It was surprising to get to know that they considered having monitor lizard meat as often as having chicken meat. At the end of the presentation session, the children were asked if they would still like to consume monitor lizard meat and participate in hunting festivals, to which most of them answered “no”.

All the tribal villagers who attended the evening workshop stayed until the end of the session. One of the interesting outcomes was conveyed during the interaction session, when a hunter named Shitol, who previously showed his weapons, such as bow and arrow, catapult and explained several hunting methods of the local wildlife species, spoke about the importance of conservation of monitor lizards. This might be a small step, but definitely an achievement to encourage the introverted, shy Santhal tribal villagers to share their thoughts and views as well as to motivate them to conserve and protect the wildlife species in the catchment area of their villages. At the end of the workshop, the villagers wanted us to show them a movie on the projector screen. It was exciting for them to watch the workshop presentation on the big screen for the first time. Though, it was unplanned, we did not want to disappoint the villagers and played the documentary movie “The Elephant Whisperers” by Kartika Gonsalves, which described an emotional bond between two orphaned elephants and a tribal couple who were given the responsibility to raise the calves by the forest department of Madumalai Wildlife Sanctuary in the Tamil Nadu state of India. The documentary addressed the very important issue of coexistence between humans and wildlife.



Figure 4: Shitol, the former Santhali hunter addressing the audience about conserving local wildlife species such as monitor lizards and his picture from 2021 proudly describing the use of his bow and arrow.



Figure 5: A boy with *V. flavescens* kills from the outskirts of West Bengal. Photograph by Tanmoy Ghosh.

Conclusions and Outlook

The overall workshop sessions can be considered as successful in spreading awareness among the tribal villagers from the five villages. It is noteworthy to mention in this context that unlike previous workshops conducted for college and school students in India and elsewhere (Dookia 2009, Nates *et al.* 2012, Bhattacharya *et al.* 2019), the traditional tribes such as the Santhals need special attention and care when issues like local wildlife utilization are addressed. This is due to the fact that Santhals have utilized wildlife around them since ages and this tradition is deeply rooted in their cultural practices (Aditya and Chatterjee 2001, Ghosh *et al.* 2013). It is crucial to make them aware and understand about the consequences of this domestic use of wildlife, and accordingly motivate them to question such traditional practices against the background of the perceived decline of many species. Hence, awareness workshops and interactions with the tribal villagers should be conducted on a regular basis in these villages, also to generate responsible action in dealing with their environment. The trust placed in us here should desirably open a door to the citizen science approach, so that hunters with knowledge of the local wildlife species (such as monitor lizards, jungle cats, and jackals among others) can record and monitor their movements and might serve as nature guides to local tourists in exchange of some monetary incentives. This way, the hunters can be motivated to protect native wildlife, take notice of declines in specific species and populations, and manage local use practices appropriately.



Figure 6: Tribal children after the workshop.

Acknowledgements

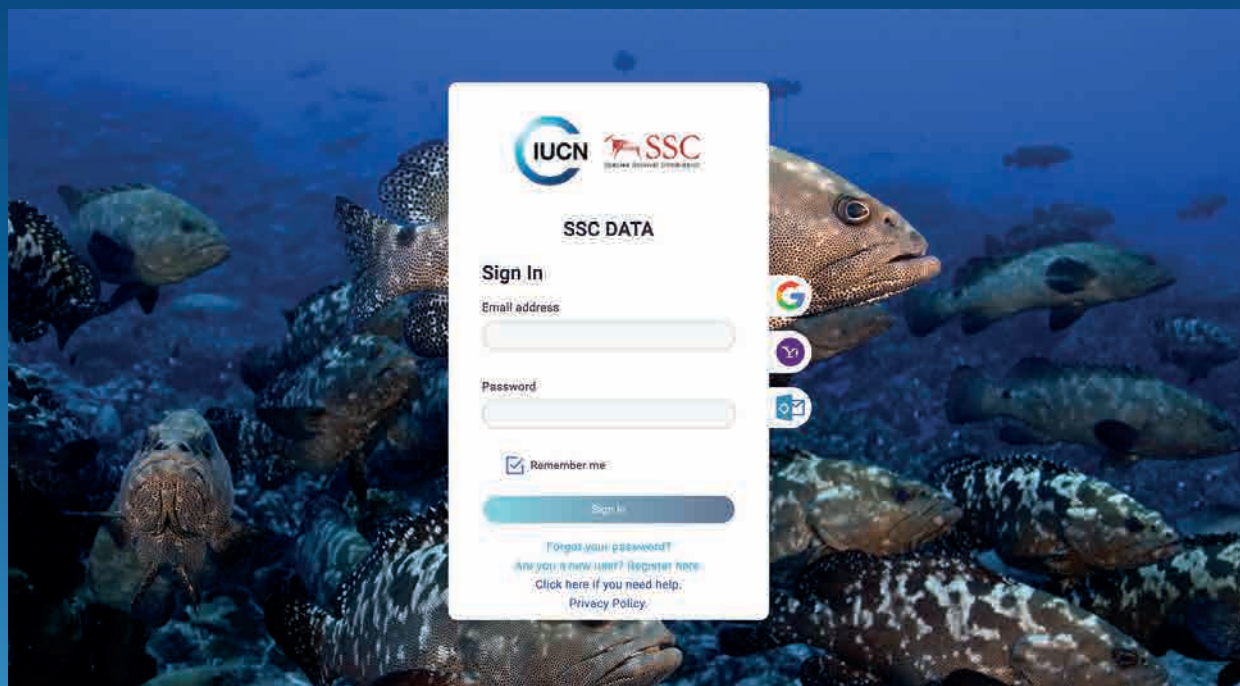
We would like to thank all the volunteers from the Srichandrapur village for helping us organize the workshops. The first author would like to thank especially Urvashi Goswami and Souradeep Bhattacharya for supporting and sponsoring the workshops.

References

- » Aditya, A. K., & Chatterjee, P. (2001). Tribal life in association with animals. *Santhal Worldview*, 30-36.
- » Bhattacharya, S., & Koch, A. (2018). Hatha Jodi: An illegal trade of misused scientific facts or blindfolded myths and beliefs? *Biawak- Journal for Varanid Biology and Husbandry*, 12(2), 97-99.
- » Bhattacharya, S., S.Z. Zia, S. Mahato, R.K. Gangwar, N. Singh, M. Auliya, & A. Koch. 2019. "Report on the Awareness Workshops "Perceptions of Wildlife Conservation of Today's Youth in West Bengal, India, with a Focus on Monitor Lizards". *Biawak – Journal of Varanid Biology and Husbandry*, 13(2): 94-100.
- » Bhupathy, S., Kumar, S.R., Thirumalainathan, P., Paramanandham, J. & Lemba, C., 2013. Wildlife exploitation: a market survey in Nagaland, North-eastern India. *Tropical Conservation Science*, 6(2): 241-253.
- » Cota, M., Stuart, B.L., Grismer, L., Quah, E., Panitvong, N., Neang, T., Nguyen, N.S., Wogan, G., Lwin, K., Srinivasulu, C., Srinivasulu, B., Vijayakumar, S.P., Ramesh, M., Ganesan, S.R., Madala, M., Sreekar, R., Rao, D.-Q., Thakur, S., Mohapatra, P. & Vyas, R. (2021). *Varanus bengalensis*. *The IUCN Red List of Threatened Species 2021*: e.T164579A1058949.
- » D'Cruze, N., Singh, B., Mookerjee, A., Macdonald, D., Hunter, K., Brassey, C., Rowntree, J., Megson, S., Megson, D., Fox, G., Louies, J., Sharath, R. K (2018). What's in a name? Wildlife traders evade authorities using code words. *Oryx*, 52: 13-13. doi:10.1017/S0030605317001788
- » Das, A., Hasan, M.K., Bhattarai, S., Wangyal, J. & Mohapatra, P. (2021). *Varanus flavescens*. *The IUCN Red List of Threatened Species 2021*: e.T22872A127899602.
- » Dookia, S. (2009). Conservation of Indian gazelle or chinkara through community support in Thar Desert of Rajasthan, India. *Report submitted to The Rufford Small Grants, UK*.
- » Eigenbrod, F., S.J. Hecnar & L. Fahrig. (2008). Accessible habitat: An improved measure of the effects of habitat loss and roads on wildlife populations. *Landscape Ecology* 23(2): 159-168.
- » Ghosh, T. N., Singhamahapatra, R., & Mandal, F. B. (2013). Traditional use of animals among Santhals of Bankura district. *International Journal of Latest Research in Science and Technology*, 2(6), 95-96
- » Ghosh-Jerath, S., Singh, A., Magsumbol, M.S., Lyngdoh, T., Kamboj, P. and Goldberg, G., (2016). Contribution of indigenous foods towards nutrient intakes and nutritional status of women in the Santhal tribal community of Jharkhand, India. *Public health nutrition*, 19(12):2256-2267.
- » Guha, S., & Ismail, M.D. (2015). Socio-cultural changes of tribes and their impacts on environment with special reference to Santhal in West Bengal. *Global Journal of Interdisciplinary Social Sciences*, 4(3):148-156.
- » Koch, A., Ziegler, T., Böhme, W., Arida, E., & Auliya, M. (2013). Pressing problems: distribution, threats, and conservation status of the monitor lizards (Varanidae: *Varanus spp.*) of Southeast Asia and the Indo-Australian archipelago. *Herpetological Conservation and Biology*, 8(Monograph 3), 1-62.
- » Majhi, C. P. (2001). Santhal language and culture. *Santhal Worldview*. New Delhi: *Indira Gandhi National Centre for the Arts*, 89-99.
- » Mittermeier, R. A. 1997. Megadiversity: Earth's biologically wealthiest nations. *Agrupacion Sierra Madre*.
- » Nates, J., Campos, C., & Lindemann-Matthies, P. (2012). The Impact of a Short Conservation Education Workshop on Argentinean Students' Knowledge about and Attitudes towards Species. *Eurasia Journal of Mathematics, Science and Technology Education*, 8(4), 257-267
- » Prasad, S.N., Ramachandra, T.V., Ahalya, N., Sengupta, T., Kumar, A., Tiwari, A.K., Vijayan, V.S. & Vijayan, L., 2002. Conservation of wetlands of India – a Review. *Tropical Ecology*, 43(1): 173-186.
- » Sahajpal, V., Goyal, S.P., Singh, K. & Thakur, V., 2009. Dealing wildlife offences in India: role of the hair as physical evidence. *International Journal of Trichology*, 1(1): 18.
- » Scanes, C. G. (2018). Human activity and habitat loss: destruction, fragmentation, and degradation. *Animals and human society. Academic Press Chapter 19: 451-482*.
- » Sharma, C.P., Kumar, A., Vipin., Sharma, V., Singh, B., Kumar, G. C., & Gupta, S. K. (2019). Online selling of wildlife part with spurious name: a serious challenge for wildlife crime enforcement. *International Journal of Legal Medicine*, 133(1), 65-69.
- » Sharma, R.K., Goyal, A.K., Saini, J., Sharma, M.B. (2018). The species in crisis: *Varanus bengalensis*. *Species*, 19:68-7.
- » Shi, H., Singh, A., Kant, S., Zhu, Z., & Waller, E. (2005). Integrating Habitat Status, Human Population Pressure, and Protection Status into Biodiversity Conservation Priority Setting. *Conservation Biology*, 19(4), 1273-1285.



Bengal monitor (*Varanus bengalensis*) NT.
Photo © Hemachandra Basnayaka on pexels.com



SSC DATA system.
Photo © IUCN SSC

SSC DATA Information System: new setting

Since 2021, SSC DATA utilizes its information systems platform to upload and process information, targets, and results from SSC groups. Our dedicated SSC DATA Unit has closely examined the data collected in 2022 in order to enhance the reporting process, which is aligned with ongoing efforts of our partnership team. Consequently, a new feature has been incorporated in the results step, which will enable us to capture even more data pertaining to our funding efforts.

SSC Groups can now report under each of their targets whether they have collaborated with other IUCN or non-IUCN bodies to achieve them. Additionally, groups can easily report which targets have been funded by the different SSC Internal Grant programs: *Internal Grants*, *Internship Grants* and *EDGE Internal Grants*. SSC Groups will find the following questions in the *Narrative Description* section when uploading their results.

- *Did you collaborate with IUCN or Non-IUCN bodies to advance this target?*
- *Did you receive funding from any SSC internal grant program to achieve this result?*

IUCN SSC DATA
QUADRENNIUM 2021-2025
START: 01.01.2021

IUCN SSC Chair's Office

Dashboard
My Group
Group Information
Targets
KSR
Gallery
Documents
Reports
Acknowledgments

TARGETS Target | Results

VIEW OF RESULTS REPORTED

Report the results of the SSC Network funding support

Code: 103

KSR	Indicator	Actual	Planned
13 Increase the visibility of different taxa and species. COMMUNICATE	Number of reports produced sharing the results of SSC Network funding	0	2

Current year's result

Unit

Value

Target

Provide a description of the results obtained during the current year

Did you collaborate with IUCN or Non-IUCN bodies to advance this target? ☐

Did you receive funding from any SSC internal grant program to achieve this result? ☐

This new setting will help the SSC Chair's Office measure the impact of funding opportunities provided to the network, which will advance the implementation of the 2021-2025 Species Strategic Plan. This setting is now available in the SSC DATA Information System and will be part of the new reporting process for 2023. To learn more about these changes, visit <https://iucnsscddata.org/>.

A photograph of Pablo García Borboroglu, a man with dark hair, smiling and looking towards the left. He is wearing a blue polo shirt with red trim on the sleeves. He is sitting on a pebbly beach. In the background, there are several penguins standing on the shore, and the ocean is visible under a clear blue sky.

Who shapes the SSC?

Pablo García Borboroglu

Co-Chair, Penguin Specialist Group

For more than 30 years Pablo García Borboroglu has been dedicated to preserving penguins and their habitats across four continents. He is the co-founder and Co-Chair of the SSC Penguin Specialist Group. Also co-founder of the Global Penguin Society, an international coalition that promotes the protection of penguin populations through science, management and education.

We are thrilled to congratulate Dr. Pablo García Borboroglu on winning the prestigious 2023 Indy Prize for his outstanding work in conservation!

Pablo García Borboroglu.
Photo © Rubén Digilio

How did it feel to receive the Indianapolis Prize and what impact do you think it will have on your conservation work?

Receiving the Indianapolis Prize was truly fantastic because it legitimized our work for so many years. It is also significant because when you receive an award from another country, especially in my case as I live in Argentina and work in many developing countries, it garners attention to your opinions. But it was really amazing to see the impact on the media, and that allows us to increase the visibility of the causes we champion for the penguins and oceans. And recently, I was amazed to see that many political doors have opened thanks to this award. So it will allow us to speed up many conservation projects that we have in hand. I was even surprised to receive calls from presidents. It is reassuring to know they are concerned about the environment and willing to engage in discussions related to conservation.

How would you describe your experience working in penguin conservation within SSC during the last decades, both as part of this huge network of volunteers and as a Specialist Group leader?

It is amazing to be part of IUCN and we have been working alongside IUCN for a decade now. When we started working on penguins we saw that there was no Penguin Specialist Group, so we created it in 2015, to receive support from the IUCN Species Survival Commission. For example, we had an issue off the coast of Namibia, where there was a Chinese boat capturing endangered African penguins. It was very difficult for us to tackle that rapidly. So we contacted the Chair of the SSC and they directly contacted the government of Namibia, so that we were able to address the issue quickly and effectively. I see our Specialist Group as a powerful international conservation arm. Now we are expanding. Our group has almost 70 members and has really been very helpful in addressing many issues and including researchers that normally do not get involved in conservation issues, so their scientific credentials really help speed up the conservation work that we need to do on penguins.

What gives you hope to keep going?

There are two things, two main things that give me hope to keep going. First of all, is the young generation. When I was small nobody was talking to me about wildlife, or about nature. It was only my grandmother, but that was quite unusual. But now all the kids are aware of conservation issues. What are the main problems that we need to address and what do we need to do in terms of conservation? So the young generations have conservation in their DNA, and soon they are going to represent most parts of our world so they are going to vote taking the environment into consideration and they are going to vote for candidates and presidents that will include conservation in their political agenda. The other thing that gives me hope is technology. Of course, it is not that technology will solve everything and we can continue doing all the things we are used to, but I have confidence that science will provide solutions to problems we already created, but also, to avoid future problems. I mean, there are some problems that we will never have thanks to the new technology. So those are the two things that I am really, really hopeful for and also to see the impact of our conservation actions. I witnessed that it is really worthwhile to act because nature can recover if we give it the chance.



Center for Species Survival

Photo © IUCN SSC

New Centers for Species Survival

"Collaboration is critical for the conservation of our planet's biodiversity"
says Prof. Jon Paul Rodríguez, SSC Chair.

In the last quarter, the SSC Chair's Office expanded the network of Centers for Species Survival with two new partnerships, increasing the integration of diverse stakeholders from zoos and aquariums, to research institutions and NGOs into conservation efforts. The two new Centers will work at national and regional level and enable their organizations to scale-up ongoing efforts to support national species, conservation strategies and action plans.

Center for Species Survival Nigeria: APLORI

This new Center was launched last August in partnership with [A. P. Leventis Ornithological Research Institute \(APLORI\)](#) to establish the **first Center based in Africa**, located in the Amurum Forest Reserve, Jos, Nigeria. This partnership has enabled SSC to achieve the goal of establishing at least one Center for Species Survival on each continent.



CSS Nigeria's mission is to address the urgent need for regional-level understanding of birds and biodiversity status and to lead concerted efforts for their conservation. This Center is committed to enhancing capacity building and supporting the species conservation cycle through research, training, rigorous Red List assessments, and strategic conservation planning and action in Nigeria and West Africa.

Dr. Adams A. Chaskda was named as Director of the Center, who holds the position of a Reader in the Department of Zoology at the University of Jos and serves as the Director of the A. P. Leventis Ornithological Research Institute (APLORI) and the Center. Dr. Chaskda's research primarily revolves around breeding/foraging ecology, the influence of human activities on the environment, and the study of nocturnal ecology.

Additionally, the Center hired a dedicated full-time officer, Bello Adamu Dammallan. Bello has a background in ecology and conservation biology with experience in data management. He employs a combination of expert-derived information and citizen science data to understand species distribution patterns and processes inside and outside protected areas, identifying conservation priority sites and species and working towards their conservation.

The first efforts of the Center for the next 12 months will be focused on the Assess component of the Species Conservation Cycle. Their targets are:

1. Understand and inform the world about the status and trends of biodiversity.
2. Conduct a comprehensive systematic review on the state of knowledge on endemic and threatened bird species in West Africa.
3. Assess the protection status of Key Biodiversity Areas (KBAs) in West Africa.

4. Conduct a gap analysis of Assessed Species in Nigeria on the IUCN Red List.
5. Initiate the development of National Red List for Nigeria, focusing on endemic, rare, and threatened bird species as flagship species.

To know more about its current activities and how to engage with this Center, please reach out Bello Adamu (adamubello001@gmail.com)

Center for Species Survival India: Wildlife Trust of India

This new Center was launched in July 2023 in partnership with [Wildlife Trust of India](#) to establish the **16th CSS and the second in Asia**. This collaborative effort aims to enhance conservation by wildlife experts and SSC Groups and safeguard the rich biodiversity of India.



The Center hopes to provide a platform for conservation practitioners to network and share best practices. It will also contribute to species status assessments using the [IUCN Red List of Threatened Species](#) and amplify the impact of species recovery efforts across the country. The Center will further act as a bridge between national and international efforts to save species.

With India being home to numerous iconic and endangered species, the need for such a Center has become more crucial than ever. Possessing a tremendous diversity of climate and physical conditions, India has a great variety of fauna, numbering 92,037 species, of which insects alone include 61,375 species. It is estimated that about two times that number of species still remain to be discovered in India. The priorities for this new Center are:

1. Work with SSC Groups, other Centers for Species Survival, IUCN members and other institutions and entities engaged in Red Listing on species conservation efforts to understand the status of assessments, conservation action plans and conservation priorities for India's biodiversity.
2. Act, as appropriate and necessary, to convene and catalyse SSC members in India to engage with assessment, planning and action efforts for Indian species, including exploring the possibility of supporting the creation of an India Species Specialist Group.

To date, the Center is still in the recruitment process to hire a Species Survival Officer, but has a Director, Dr. Rahul Kaul, who is the Chief Executive Officer and the Chief of Conservation at Wildlife Trust of India. He heads the department that drives conservation impact in diverse projects including ecology, species, and habitat recovery.

To learn more about how to engage with this Center, please reach out Dr. Rahul Kaul (rahul@wti.org.in) and Prajna Paramita Panda (Prajna@wti.org.in).



IUCN SSC Centers for Species Survival

Centers for Species Survival (CSS) are partnerships between the SSC Chair's Office and leading species conservation organisations. They empower dedicated partner-based staff teams of at least one full-time staff member, to work closely with relevant SSC Groups in catalysing priority efforts for the Species Conservation Cycle: assess-plan-act with a geographic, disciplinary or taxonomic focus.

SSC works closely with CSSs across civil society organisations, government agencies, zoos and aquariums, among other stakeholders, to understand the key networks and conservation

efforts that are underway in their country or region. The following is a summary of the progress and outcomes achieved by some of the Centers from July to September 2023:

EUROPE

CSS - Macaronesia: Loro Parque Fundacion

During the last months, the Center has worked on analyzing the status of biodiversity in Europe. The focus has been how species are distributed throughout different Red List categories, according to their regional assessments in Europe.

The Center has also prepared materials for an exhibition in the European Parliament (Belgium), focused on the designation of a marine biodiversity sanctuary in Macaronesia and the extension of the sonar moratorium in Macaronesia. The Center has created the content and the design of the panels and other materials that are going to be exhibited on 23-27 October in a designated space at the European Parliament.

Three side events related to these two topics will be held during the week and one more will highlight zoos as catalysts for the European Biodiversity Strategy 2030. This exhibition will be hosted by our host institution; Loro Parque Fundación, and it will have as collaborators IUCN, WAZA and Reverse the Red.



Assess:

- Gap analysis: Status of the Biodiversity in Europe 2023 (ongoing).

Act:

- Collaborate in the creation of the marine biodiversity sanctuary in the Macaronesia (ongoing).
- Collaborate in the extension of the moratorium for the sonar in the Macaronesia (ongoing).

NORTH AMERICA

Global CSS - United States: *Indianapolis Zoo*

The Global Center for Species Survival team supports, connects and communicates the work of thousands of conservationists joined together in the more than 170 Specialist Groups, Task Forces and Conservation Committees of the IUCN Species Survival Commission.

In the last quarter, the Global Center for Species Survival team worked on the following:

Assess:

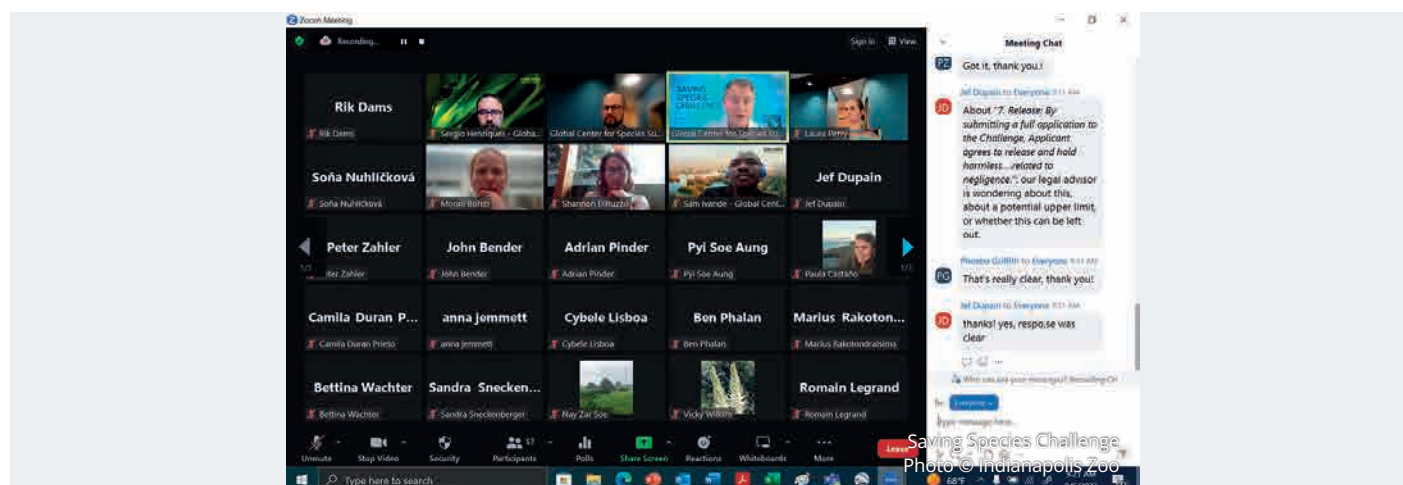
- Behavior Change Coordinator Laura Perry contributed to the SSC Behaviour Change Task Force landscape assessment – a document outlining what behavior change applications have been used in conservation and where the gaps are. This will likely be published in the journal *Annual Reviews* later this year.
- Freshwater and Marine Conservation Coordinator Monni Böhm co-organized and co-chaired a symposium on *Butterfly Monitoring and establishing a Global Butterfly Index* (part of the SSC Butterfly and Moth Specialist Group work plan).
- Monni contributed to a Global Freshwater Fauna Assessment manuscript which will be submitted soon to *Nature*.
- Monni submitted five more Philippine beetle assessments via the SSC Terrestrial and Freshwater Invertebrate Red List Authority (TIRLA).
- Plants and Fungi Conservation Coordinator Cátia Canteiro co-organized -- together with the SSC Brazil Fungal Specialist Group, IUCN SSC Colombia Fungal Specialist Group and Fungi Foundation -- a workshop to assess the extinction risk of fungi during the XI Latin American Mycology Congress, with participants from more than 20 countries.



- Cátia co-authored a news article in *Oryx* about the creation of the [Brazil Fungal Specialist Group](#).
- Cátia and Invertebrate Conservation Coordinator Sérgio Henriques participated in an IUCN online discussion workshop -- Global Conservation of Soil Biota -- organised by Neil Cox from the IUCN-CI Biodiversity Assessment Unit.
- Sérgio contributed to the extinction risk assessment of European Fireflies. The assessment is expected to be published in the next Red List update.
- Sérgio contributed to a landscape assessment on research ethics for the monitoring of the illegal wildlife trade online. It was accepted for publication in the journal *Conservation Biology*.
- Sérgio led research into assessing the impact of the illegal wildlife trade on Brazilian tarantulas. It has been submitted for publication in the journal *Conservation Biology*.
- Sérgio co-supervised a master's degree student from the Natural History Museum and the Unit for Integrative Zoology, Department of Evolutionary Biology University of Vienna, who submitted her thesis on the assessment of tarantulas from Cambodian Wet Markets.
- Bird Conservation Coordinator Sam Iwande contributed to a workshop to introduce conservation biology master's degree students in Nigeria to the IUCN Red List and supported them in taking the online Red List Assessor training.

Plan:

- The Global Center for Species Survival Team supported 79 successful pre-proposal applicants in their next steps towards producing a conservation action plan and full application for the Saving Species Challenge -- a \$1 million dollar grant aimed at improving the Red List status of a single species. We continue to support applicants by holding informational webinars and assisting with the creation of conservation plans.



- Laura planned an intervention to modify poison use behaviour in southern Tanzania. The project is in its final stages of planning before implementation through autumn 2023 to early 2024.

- Monni worked with partners at the National Mississippi River Museum and Aquarium, and other project partners, on submitting a proposal for North American Freshwater Mussel SAFE program. Monni also attended the American Malacological Society Annual Conference and presented on the proposal and the role of zoos and aquariums in mussel conservation. The SAFE proposal was approved in time for the Association of Zoos and Aquariums conference in Columbus, Ohio.



- Cátia, Sam and Sérgio contributed to the Indiana State Wildlife Action Plan (SWAP) by applying the Conservation Standards approach to the classification of threats Species of Greatest Conservation Need.
- Sérgio supported the inclusion of invertebrates in the State Wildlife Action Plan (SWAP) analysis of the states of Indiana, Ohio and Minnesota.
- Sam helped introduce Conservation Biology master's degree students in Nigeria to conservation planning using the CPSG's Principles and Steps document.

Act:

- Laura contributed to the development of a letter to the White House from the Cetacean Specialist Group in response to the Biden administration's statement on vaquitas and fishing in the Gulf of Mexico.
- Sergio contributed to the development of the CITES Non-detriment findings on Terrestrial Invertebrates document, "Risks Due to Biological Characteristics and Life History."

Network:

- Monni supported the finalization and submission of a proposal to establish an SSC Aquatic Fungi Specialist Group. She also worked on drafting the next proposal for an SSC Sponge Specialist Group.
- Cátia supported the review of the SSC Aquatic Fungi Specialist Group. She also worked on drafting the proposal for an SSC Task Force on Illegal Succulent Plant Trade.
- Sérgio supported efforts to establish Specialist Groups for the following: Terrestrial Isopods, Termites, Tardigrades, Millepedes, Springtails, and Tiger Beetles.

- Sam attended the European Ornithologists' Union conference in Lund, Sweden and co-organized the pre-conference symposium of the Migrant Landbird Study Group. He also delivered a presentation about the SSC network, co-facilitated a workshop on "The Extra-rounds of conservation: translating conservation science to policy" and is working with the group to submit a proposal for a Migrant Landbirds Specialist Group.



- Communications Coordinator Kelly Griesse, Mammal Conservation Coordinator Justin Birkhoff and Monni all attended the Association of Zoos and Aquariums conference in Columbus, Ohio to network with AZA members as well as members of other IUCN SSC Centers for Species Survival. Justin was also a presenter at the conference.



Communicate:

- Kelly started publishing achievements of Specialist Groups on Global Center social media channels using highlights from the 2022 annual reports. The first Specialist Group featured was the [Shark Specialist Group](#) with content published on International Whale Shark Day.



- Kelly is incorporating messaging about Specialist Groups, Centers for Species Survival, and the wider SSC network on video boards outside the Global Center for Species Survival. These take the form of conservation news stories that all Indianapolis Zoo visitors see upon entering the zoo.
- Cátia attended the XI Latin American Mycology Congress and presented about SSC and the network's efforts on fungal conservation.
- Kelly, Justin and Monni have recorded seven podcast episodes so far with plans to record five more before the end of the year when the podcast is expected to launch.



CSS - United States: *Trees, The Morton Arboretum*

CSS Trees has spread its efforts across the conservation cycle with projects that focus on assessments and analyses, planning conservation workshops, networking with global partners, and communicating the work of the CSS Trees to internal and external audiences. Largely, this work focused on oaks in biodiversity centers including the U.S., Mexico, and Central America. Species Red List assessments have been updated, and data have been gathered and analyzed to incorporate in the mesoamerica oak gap analysis. The conservation workshops were focused on several oak species native to Mexico and Central America. More than 50 partners from Mexico and Central America attended both workshops, one which focused on *Quercus insignis* in Costa Rica and the other on more than six oaks native to Baja California, where conservation planning and networking progress was made. Finally, the CSS Trees was largely focused on communicating its mission, goals, and projects to numerous audiences at the Arboretum, and to outside communities and partners through a variety of presentations and events.

Assess:

- GWe created a curated set of data points representing the known native distribution of 60 Threatened or Data Deficient oak species in Mexico and Central America as part of the conservation gap analysis. The dataset consists of 4,490 occurrence points from over 17 unique sources (e.g. Tropicos, GBIF, SEINet Portal Network, IUCN Red List). The occurrence data for each species was carefully reviewed by a minimum of two regional experts in the genus.

- We finalized mapping and calculating protected area coverage for each of our 60 target Mesoamerican species. We also finished cleaning the data from the 2017-2022 *ex situ* collections surveys. This dataset is composed of survey responses from 196 institutions in 27 countries that reported accessions of at least one native Mesoamerican oak species. With this data, we mapped and calculated the geographic and ecological coverage of *ex situ* collections. This will help further guide conservation efforts for threatened Mesoamerican oak species and prioritize collection locations in the region.
- We are in the process of writing in-depth profiles for each of the 33 threatened species in the gap analysis. These profiles consist of information on distribution and ecology, current threats, conservation activities, as well as most urgent action needed. Each profile will be co-authored by a regional expert who works closely with the species. We have sent the profiles to co-authors for their input.

Plan:

- The Global Tree Conservation Program and Agathos Natura hosted a conservation action planning workshop for *Quercus insignis*, an endangered oak species native to Mexico and Central America. The event took place in Heredia, Costa Rica on 8-9 August, with 35 participants in attendance from NGOs, national parks, universities, and both local and national government. The group identified key threats and created five central goals with associated strategic actions to outline a *Q. insignis* conservation strategy for Costa Rica. Lots of positive feedback was given following the workshop and contacts were shared in order to establish working groups and share the drafted action plan later this year.

Network:

- The Global Consortium for Oak Conservation (GCCO), San Diego Zoo Wildlife Alliance (SDZWA), the Ensenada Scientific Research and Higher Education Center (CICESE) and the Autonomous University of Baja California (UABC), successfully hosted a workshop in Baja California, Mexico. In this workshop, participants had the opportunity to share tools and information about oak conservation and research, network and strengthen collaborations between U.S. and Mexican partners, learn how to become a species steward (a role within the GCCO), and plan collaborative conservation projects. Participants also learned more about the Mesoamerican Gap Analysis and how they can participate in co-authoring species profiles for the seven target taxa that occur in Baja California. The oak species that were discussed at the workshop are the priority: threatened oaks distributed throughout southern California, U.S. into Baja California, Mexico. Given the shared range of numerous threatened oaks, we are working to forge collaborations among partners in the U.S. and Mexico to implement conservation and research activities to prevent the extinction of these critically endangered oaks.

Communicate:

- Staff in the Global Tree Conservation Program collaborated with partners in Mexico and Costa Rica to develop a propagation protocol for *Q. insignis* as part of the National Geographic Explorers project, "*Safeguarding the Endangered Oak Quercus insignis and its Montane Cloud Forest Habitat*." It will soon be available on the Morton website as well as the Global Conservation Consortium for Oak resources page. Orozco, K., Álvarez-Clare, S., Rodríguez-Acosta, M., Toledo-Aceves, T., García-Hernández, M.Á., Carpio, J., y De Sousa, R. (2023). Protocolo

de Propagación para el roble amenazado *Quercus insignis*. The Morton Arboretum. Lisle, IL.

- *Celebración de los Árboles*, an event hosted by The Morton Arboretum, celebrates the vibrant cultures of Latin America, where the Arboretum does important work to protect and conserve threatened trees and the ecosystems they support. The Center for Species Survival, Trees, is helping scientists and local residents in Baja California, Baja California Sur, Mexico, and Costa Rica to conserve endangered oak species, so the ticket purchases for this event helps support the Arboretum's mission to plant and protect trees for a greener, healthier, and more beautiful world..

SOUTH AMERICA

CSS - Brazil: *Parque das Aves*

CSS Brazil is the union of three co-founders: IUCN SSC Species Survival Commission, SSC Conservation Planning Specialist Group (CPSG), and Parque das Aves, our host institution. We work hand-in-hand with the Brazilian conservation community and the government to enhance the national capacity to assess-plan-act, and influence policy to save species.

Our recent activities:

Plan:

- The IUCN SSC CTSG Training for Effective Conservation Translocations Course took place at Salto Morato Natural Reserve in the state of Paraná, Brazil, from August 28 to September 1, 2023. The course was conducted by the [SSC Conservation Translocation Specialist Group \(CTSG\)](#) and was organized by [Refauna](#)/ Federal University of Rio de Janeiro, [São Paulo Zoo](#), the SSC Center for Species Survival Brazil ([CSS Brazil](#)), National Center for Bird Conservation and Research ([CEMAVE/ICMBio](#)), National Center for Research and Conservation of Brazilian Primates ([CPB/ICMBio](#)), [Zoological Society of London](#) and the [University of Bern](#), with funding from [Fundação Grupo Boticário](#). Thirty experts and professionals dedicated to biodiversity conservation with a particular focus on conservation translocation projects participated in the event. These experts included biologists, veterinarians and conservationists representing 22 institutions, including Civil Society Organizations (CSOs), zoos, universities, the federal government, and research institutions.

Over the course of five days, participants had the unique opportunity to engage with and learn from renowned experts in the field. The curriculum covered the [CTSG conservation translocation guidelines](#), the decision-making processes related to the topic, and the participants had the opportunity to work on three case studies of conservation translocation projects from Brazil. This course represents an important milestone in promoting knowledge and best practices related to conservation translocation in Brazil as part of the capacity-building strategy of the Brazilian network on Conservation Translocation. The Fundação

Grupo Boticário team at the Salto Morato Natural Reserve takes great pride in hosting this event and continues to play a fundamental role in championing nature conservation efforts.



Act:

- Six individuals of a model species for Alagoas Antwren (White-flanked Antwren) were captured and maintained in aviaries in Pernambuco, part of our work in collaboration with SAVE Brasil.
- Artificial nest boxes for opossums (66) installed in Alagoas Antwren habitat, as the first step in testing the translocation under license of these nest predators away from Alagoas Antwren territories, again through our collaboration with SAVE Brasil.
- Sound recorders (20) and camera traps (5) were installed in clumps of flowering *Guadua trinii* bamboo, as part of our ongoing search effort for the Purple-winged Ground-dove, in partnership with IBS-CONICET of the National University of Misiones, Argentina.

Communicate:

The Brazilian Network on Conservation Translocations, co-organized by institutions such as Grupo Refauna, IUCN SSC CPSG | CSS Brazil, ICMBio, and São Paulo Zoo, among other participating organizations, received encouragement and support from the IUCN SSC Conservation Translocations Specialist Group (IUCN SSC CTSG) to compose a manifesto entitled the “Salto Morato Letter”. This letter was addressed to directors of all environmental bodies, as well as to Marina Silva, the Minister of Environment and Climate Change, and the leadership of the Brazilian National Council for Scientific and Technological Development (CNPq), the Brazilian Association of Zoos and Aquariums (AZAB), and the Environmentalist Front in the Brazilian Congress.

The document emphasizes the vast potential of reintroductions and other forms of translocations for wild species populations to profoundly impact biodiversity conservation and natural ecosystems in Brazil. It presents three key proposals:

1. The adaptation of Brazilian legislation to modernize the regulatory framework for conservation translocations, including their incorporation into environmental licensing processes overseen by relevant public authorities.
2. Launching extensive public awareness campaigns aimed at countering misinformation and disseminating accurate and reliable information about the significance of translocations for conservation. These campaigns target not only the general public but also specific audiences, such as businesses and the public sector.
3. Urgently fostering greater engagement among environmental Civil Society Organizations (CSOs), academia, the private sector, public bodies, and politicians in the realm of translocations for conservation, grounded firmly in sound scientific principles.

This document was prepared during the IUCN CTSG Training for Effective Conservation Translocations Course and was endorsed by individuals representing 30 institutions. You can access the full document [HERE](#) (in Portuguese).



CSS - Argentina: *Fundación Temaikèn*

Based in Argentina, this Center aims to strengthen biodiversity conservation strategies in Argentina and Latin America, doing so by connecting key actors to strengthen local and regional capacity and promoting evaluation, planning and implementation of conservation actions in the region.

In recent months, the Center has made concrete advances in assessment and planning thanks to the networking generated between CSSs, Specialist Groups and government representatives.

Assess:

- A meeting was held with PhD Pablo Demaió and MSC Luis J. Oakley, both members of the SSC Temperate South American Plants Specialist Group. It was agreed to carry out a workshop to categorize the 13 endemic

flora species of Teyú Cuaré, which the CSS Argentina considers as flagship species, projected for the beginning of the year 2024.

- We had a virtual meeting with Cátia Canteiro (GCSS Plants and Fungi Conservation Coordinator). In it, we were able to exchange information and methodology about plant assessment.



Plan:

- The Center officer joins the organizing group of a conservation plan workshop for 39 species of Chilean endemic trees, together with CSS Brazil, the SSC Conservation Planning Specialist Group (CPSG) and Botanic Gardens Conservation International (BGCI). This workshop is projected for next year.
- The facilitation of the national meeting of the Argentine Aguara Guazú Group (*Chrysocyon brachyurus*) 2023 was carried out. The objective of this meeting was to evaluate the species' threats at the national level and establish a governance structure for the group. As a result of the workshop, products were obtained that allow planning conservation strategies for this species.



Act:

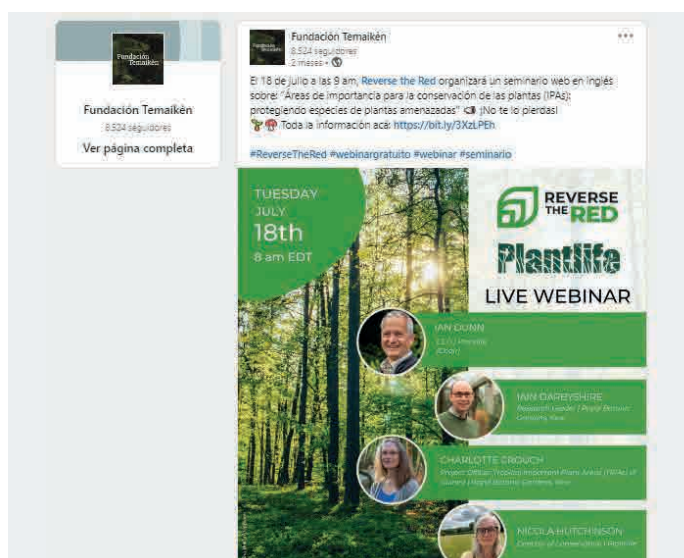
- The CSS Argentina led together with CSS Brazil and IUCN SSC, a panel at the [Science Summit 78th United Nations General Assembly](#) (UNGA78) session. It was titled “Reverse the Red: Collaborative species conservation efforts in South America. Centers for Species Survival and their role as catalysts for intersectoral alliances mobilizing national networks”.
- The presentation of the CSS Argentina results for 2022 was completed in the SSC DATA reporting process. This report will generate invaluable contributions to implement the Strategic Plan for Species 2021-2025.

Network:

- Micaela Bonafina joined the CSS staff with a fixed-term employment contract. She is a lawyer, specialist in environmental law and Master in intellectual property and innovation. Micaela is in charge of generating engagement and agreements with government agencies and private sector organizations.
- An in-person meeting was held with the Darwinion Institute of Botany. The Darwinion Institute of Botany (IBODA) is an executing unit dependent on the National Council for Scientific and Technical Research (Conicet), and the National Academy of Exact, Physical and Natural Sciences. It was agreed to create a cooperation agreement between the CSS Argentina and the Darwinion Institute, with the aim of promoting the assessment and study of plant species in Argentina.
- In recent months, an agreement has been finalized with the low-cost airline JetSmart. JetSMART Airlines S.A., is a regular passenger air transport company operating in Argentina since 2019 and is interested in working in partnership for the conservation of biodiversity and collaborating to promote the recovery of wild species and ecosystems.
- A virtual meeting was held with Cristina Lopez-Gallego (Co-Chair SSC Colombia Species Specialist Group). We were able to exchange work experiences and we remained available for any need for support.

Communicate:

- Content of conservation actions was shared with the Reverse the Red initiative on Fundación Temaikén Social Networks.



ASIA

CSS - Southeast Asia: Mandai Nature

The IUCN SSC Center for Species Survival: Southeast Asia (CSS SEA) is based in Singapore and hosted by Mandai Nature, the conservation arm of Mandai Wildlife Group. It was established in 2022 with the aim of catalysing assessment, planning and action for priority species in the region. Here are some updates from CSS SEA for the period of July to September 2023:

Assess-to-Plan/Plan:

- Mandai Nature co-organised and co-facilitated a *Presbytis* Action Planning Workshop in Kuching, Sarawak, Malaysia on 25 August in partnership with the SSC Primate Specialist Group and Conservation Planning Specialist Group. A total of 28 participants utilised the Assess-to-Plan approaches to map out conservation actions needed for the protection of 20 *Presbytis* langur species found in Southeast Asia, specifically in Brunei, Indonesia, Malaysia, Myanmar, Singapore, Thailand. An output from the workshop will be the *Presbytis* Conservation Action Plan which aims to manage the decline of *Presbytis* populations in the next 10 years and beyond.



Act:

- Mandai Nature and the SSC Asian Species Action Partnership has continued its support for 40 *in-situ* conservation projects across Singapore and Southeast Asia for this reporting period.
- In August, Mandai Nature supported in the repatriation of 33 Critically Endangered Rote Snake-necked Turtles from the Singapore Zoo to their native Kupang, Indonesia, in a joint effort with the Ministry of Environment and Forestry of the Republic of Indonesia (MOEF), Balai Besar KSDA Nusa Tenggara Timur (BBKSDA NTT) and Mandai Wildlife Group. The long term partnership between Mandai Nature and Wildlife Conservation Society – Indonesia Program (WCS-IP) facilitated this. The repatriation is part of a global

conservation breeding programme with partners including the Bronx Zoo, AZA's Species Survival Plan, Singapore Zoo and Mandai Nature which aims to repopulate the species in the wild. This is the second such exercise following the first-ever repatriation of 13 turtles in September 2021. Colleagues from Mandai Nature and Mandai Wildlife Group also visited Kupang, Indonesia to see the turtles settle into their new home and visited Rote island to view the potential re-introduction site at Lake Ledulu.



Turtle health check at the breeding facility in Kupang, Indonesia
Photo © Mandai Wildlife Group



Ceremonial repatriation event in Kupang, Indonesia.
Photo © Mandai Wildlife Group

Network:

- Mandai Nature and SSC Asian Species Action Partnership (ASAP) participated in the Critical Ecosystem Partnership Fund (CEPF) mid-term investment workshop in Kanchanaburi, Thailand on 27-29 June. Organised by the IUCN Regional Implementation Team and CEPF, the workshop shared and discussed the impact of various biodiversity conservation projects in the Indo-Burma Biodiversity Hotspot.

Communicate:

- ASAP, Mandai Nature and Shoal jointly released a report "[A Strategic Framework to Accelerate Urgent Conservation Action for ASAP Freshwater Fishes in Southeast Asia](#)", which aims to see all 90 Critically Endangered ASAP freshwater fishes receive active conservation efforts by 2030.
- A webinar "Securing a Future for Freshwater Fishes in Southeast Asia" was organised in conjunction with the report launch, featuring Michael Baltzer, Executive Director of SHOAL, Sheherazade, Co-executive Director of PROGRES Sulawesi and Dr Tan Heok Hui, Ichthyologist at the Lee Kong Chian Natural History Museum.
- Mandai Nature continues to bring attention to conservation efforts for highly threatened species in the region via social media channels, spotlighting [World Tiger Day](#), [World Elephant Day](#) and [World Orangutan Day](#). The posts feature various partner organisations and ongoing conservation programmes in the field that Mandai Nature supports to tackle threats faced by these species.



Betta cracens, a peat swamp forest freshwater fish species from Indonesia.
Photo © Wentian Shi, Mandai Wildlife Group



Mekong Giant Catfish (*Pangasianodon gigas*).
Photo © Wentian Shi, Mandai Wildlife Group

SSC Partners





IUCN SSC QUARTERLY REPORT / SEPTEMBER 2023



IUCN Species Survival Commission



@IUCNssc



@IUCNssc



@IUCNssc

www.iucn.org