



Species

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2023 Report of the IUCN Species Survival Commission and Secretariat



The IUCN Species Survival Commission (SSC)

The IUCN Species Survival Commission (SSC) is a science-based network of thousands of volunteer experts from almost every country of the world, all working together toward achieving the vision of “a just world that values and conserves nature through positive action to both prevent the loss and aid recovery of the diversity of life on earth.”

Members of SSC belong to one or more of near 200 Specialist Groups, Red List Authorities, Action Partnerships, Task Forces, and Conservation Committees that make up the Network, each focusing on a taxonomic group (plants, fungi, mammals, birds, reptiles, amphibians, fishes, and invertebrates), national species, or a disciplinary issue, such as sustainable use and livelihoods, translocation of species, wildlife health, climate change, and conservation planning.

Framed by the Species Conservation Cycle, SSC’s major role is to provide information to IUCN on biodiversity conservation, the inherent value of species, their role in ecosystem health and functioning, the provision of ecosystem services, and their support to human livelihoods. This information is fed into the IUCN Red List of Threatened Species.

2021-2025 Species Strategic Plan

The IUCN Species Strategic Plan encompasses the joint work of the IUCN Species Survival Commission and a number of partnerships to achieve more than 2,700 targets proposed by the Network during the 2021-2025 quadrennium.

To accomplish those targets, the Species Conservation Cycle was established, which is the conceptual framework for the Network activities. The Species Conservation Cycle’s main purpose is to guide efforts for valuing and conserving biodiversity through three essential components that are linked to each other:

ASSESS: Understand and inform the world about the status and trends of biodiversity.

PLAN: Develop collaborative, inclusive and science-based conservation strategies, plans and policies.

ACT: Convene and mobilise conservation actions to improve the status of biodiversity.



Their implementation requires two transversal components:

NETWORK: Enhance and support our immediate network and alliances to achieve our biodiversity targets.

COMMUNICATE: Drive strategic and targeted communications to enhance our conservation impact.

SSC Species Report

Annual progress in the implementation of the 2021-2025 Species Strategic Plan is documented in the SSC *Species Report*, which consists of a comprehensive description and analysis of the activities and results generated by the members of the SSC Network and Centers for Species Survival (CSS) each year. Each SSC and CSS group contributes to this document by providing a yearly summarised description of their achievements, which is presented in stand-alone reports.

Structure of the IUCN SSC and CSS Stand-alone Reports

Stand-alone reports summarize the activities conducted and results generated by each group member of the SSC and CSS. Following, is the structure of the stand-alone report and the contents under each session.

Title of the group

Photograph(s) of the Chair/Co-Chairs

Group information

Includes names of Chair/Co-Chairs, Vice-Chairs, Deputy Chairs, Red List Authority Coordinators, Program Officers, Species Survival Directors, and Species Survival Officers, their institutional affiliations, number of members and social networks currently active.

Logo of the group

Mission statement

Includes the mission of the group.

Projected impact for the 2021-2025 quadrennium

Includes the description of the impact on species conservation resulting from the implementation of the targets formulated by the group for the 2021-2025 quadrennium.

Targets for the 2021-2025 quadrennium

Includes the targets planned by the SSC or CSS group for the 2021-2025 quadrennium ordered alphabetically by component of the Species Conservation Cycle. Each target is labeled with a numerical code (e.g., T-001, T-012) that identifies it in the SSC DATA database and its status for the reported year is indicated (Not initiated, On track or Achieved).

Activities and results

Includes the targets for which activities were conducted and results were generated during the reported year, ordered alphabetically, first by component of the Species Conservation Cycle, and second by Activity Category. Description of activities and results includes the indicator that best describes progress, its associated quantitative or qualitative result, and the narrative description of the activity conducted or result obtained. Each activity or result reported is linked to the Key Species Result to which it is mainly associated (e.g., KSR#1, KSR#5).

Acknowledgements

Includes the acknowledgements to funding agencies, partners, and persons who contributed to the progress of the targets of the group.

Summary of achievements

Summarises information of the group's strategic plan for the quadrennium and progress achieved implementing targets for all the components of the Species Conservation Cycle during the reported year.

Animalia

Fungi

Plantae

National Species

Disciplinary

Action Partnership

Task Force

Red List Authority

Committee

Center for Species Survival

Example for the recommended citation:

Xie, Y. 2024. 2023 Report of the China Species Specialist Group. In: IUCN SSC and Secretariat. *2023 Report of the IUCN Species Survival Commission and Secretariat*. Gland, Switzerland: IUCN. 12 pp.

2023 Report

IUCN SSC China Species Specialist Group



CHAIR

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NUMBER OF MEMBERS

276

Mission statement

In response to the critical challenge of biodiversity loss in China, the IUCN SSC China Species Specialist Group is committed to working closely with the SSC/IUCN to develop and maintain a network of species experts. This collaborative network will facilitate and support species inventory, monitoring, assessment, planning, conservation action, and public outreach in China and its neighbouring countries.

Projected impact 2021–2025

Not stated yet.

Targets 2021–2025

ASSESS

T-002 Conduct research on correlation between species and their diversity and conditions for the long-term survival of human beings. [Implementer: XIE Yan]
Status: On track

T-004 Conduct research on China Species Conservation Priority Setting. [Implementer: XIE Yan]
Status: On track

T-006 Assess *Boletus citrifragrans*. [Implementer: WU Gang]
Status: On track

T-007 Assess *Ganoderma tsugae*.

[Implementer: CUI Baokai]

Status: On track

T-009 Conduct assessment of species of *Aspergillus*, *Penicillium* and *Talaromyces*.

[Implementer: WANG Xincun]

Status: On track

T-013 Conduct assessment and conservation gap analysis of Chinese oaks.

[Implementer: SONG Yigang]

Status: On track

T-021 Investigate rare and protected plants in Tianjin. [Implementer: LI Yong]

Status: On track

T-022 Investigate invasive alien plant species in Tianjin. [Implementer: LI Yong]

Status: On track

T-024 Complete information for PVH- 'Tianjin Digital Herbarium'. [Implementer: LI Yong]

Status: On track

T-026 Develop spatial database of Chinese important medicinal plant species.

[Implementer: LI Liping]

Status: On track

T-028 Submit the Chinese medicinal plant assessment result to IUCN. [Implementer: LI Liping]

Status: On track

T-030 Conduct taxonomy and risk assessment of threatened *Fritillaria* species in the Qinghai-Tibet Plateau and its adjacent regions. [Implementer: QI Yaodong and ZHAO Xinlei]

Status: On track

T-031 Implement the calculation of AOO and EOO for small, medium, and large range size species with reference records, field data, satellite data, drone data, etc. [Implementer: LI Liping]

Status: On track

T-033 Assess the endangered status of China's Gesneriaceae. [Implementer: WEN Fang]

Status: On track

T-035 Evaluate the Threatened status and trend of angiosperms with high extinction risk in Qinghai-Tibet Plateau. [Implementer: ZHAO Lina]

Status: On track

T-036 Conduct Threatened status assessment of the Pygmycetaceae. [Implementer: YE Jianfei]

Status: On track

T-037 Investigate biodiversity of Chironomidae from Dawei Mountain. [Implementer: LIN Xiaolong]

Status: On track



Dendrobium officinale from South China
Photo: Motohiro Sunouchi (CC BY 2.0)

T-038 Conduct conservation of Horseshoe Crab in Guangdong. [Implementer: XIE Xiaoyong]
Status: On track

T-040 Investigate *Orithya sinica*. [Implementer: JIANG Wei]
Status: On track

T-042 Conduct Red List assessment of Freshwater Crabs in China. [Implementer: Sun Hongying]
Status: On track

T-043 Survey Semisulcospiridae. [Implementer: DU Lina]
Status: On track

T-044 Assess freshwater Planarian species, distribution range, population size, ecology and endangered situation in the Tibet Plateau and Northeast China. [Implementer: CHEN Guangwen and DONG Zimei]
Status: Achieved

T-048 Evaluate some important taxa of freshwater fish based on Criteria of IUCN Red List. [Implementer: ZHAO Yahui]
Status: Achieved

T-050 Conserve the Little Gland Frog (*Glandirana minima*). [Implementer: JIANG Hangdong]
Status: On track

T-051 Assess population size and dynamics for amphibian species in agricultural wetlands. [Implementer: Amael Borzee]
Status: On track

T-052 Conserve Humphead Maori Wrasse in coral reef of South China Sea. [Implementer: LIU Jing]
Status: On track

T-054 Assess climate change impact on population and habitat of Black-necked Crane (*Grus nigricollis*). [Implementer: SUN Dejun]
Status: Not initiated

T-057 Develop a citizen science-based online bird database. [Implementer: LEI Jinyu]
Status: On track

T-058 Draft list of Chinese avian genetic diversity. [Implementer: WANG Pengcheng]
Status: On track

T-063 Survey of China Wintering Cranes. [Implementer: QIAN Fawen]
Status: On track

T-065 Conserve Waders at Tiaozini wetland. [Implementer: JIA Yifei]
Status: On track

T-069 Conduct the Spoon-billed Sandpiper captive breeding assessment. [Implementer: CHEN Qing]
Status: On track

T-077 Revise taxonomy and distribution for Chinese Talpidae species. [Implementer: HE Kai]
Status: On track

T-082 Produce investigation report on the status of Tigers. [Implementer: XU Yanjun and WANG Huo]
Status: On track

T-087 Monitor biodiversity with public participation in Zigong, Sichuan. [Implementer: LI Yifan]
Status: On track

T-090 Assess the need and feasibility of the reintroduction of Big-headed Turtle to Shenzhen Nature Reserve. [Implementer: LIU Huining]
Status: On track

T-092 Assess the need and feasibility of the reintroduction of Burmese Python to Shenzhen Nature Reserve. [Implementer: LIU Huining]
Status: On track

T-093 Conduct Dzungarian Racerunner assessment. [Implementer: GUO Xianguang]
Status: On track

T-094 Conduct Kokshaal Racerunner assessment. [Implementer: GUO Xianguang]
Status: On track

T-097 Assess the abundance of Bryde's Whale in the northeastern Beibu Gulf of China. [Implementer: CHEN Bingyao]
Status: On track

T-098 Assess the abundance of East Asian Finless Porpoise in the northern waters of China. [Implementer: LI Yongtao and ZHANG Xuelei]
Status: On track

T-099 Conserve the Indo-Pacific Humpback Dolphin in the Gulf of Thailand. [Implementer: WANG Xianyan]
Status: On track

T-103 Conserve the Indo-Pacific Humpback Dolphin. [Implementer: HUANG Xianglin]
Status: On track

T-105 Conserve the Spotted Seal in the Yellow Sea and Bohai Sea. [Implementer: LU Zhichuang]
Status: On track

T-107 Study the evolution of Indo-Pacific Humpback Dolphin in Southeast Asia. [Implementer: ZHANG Peijun]
Status: On track

T-109 Determine distribution pattern of Finless Porpoise along the west coast of Taiwan Strait. [Implementer: ZENG Qianhui]
Status: On track

T-110 Monitor and conserve the Indo-Pacific Humpback Dolphin in the Pearl River Estuary. [Implementer: FANG Liang]
Status: On track

T-117 Investigate fish species diversity in the Beibu Gulf, northwestern South China Sea. [Implementer: WANG Xuehui]
Status: On track

T-118 Conduct taxonomic evaluations of Lophiidae species in Beibu Gulf. [Implementer: SHAN Binbin]
Status: On track

PLAN

T-012 Development of the catalogue for Illustration of National Protected, Rare and Endangered Wild Plants in Sichuan Province. [Implementer: CHENG Xinying]
Status: On track

T-014 Compile the new version of Illustration of National Protected, Rare and Endangered Wild Plants in Sichuan Province. [Implementer: CHENG Xinying]
Status: On track

T-032 Develop a population conservation plan for *Acer pentaphyllum* in Yajiang, Sichuan Province. [Implementer: WANG Kang]
Status: On track

T-067 Develop a conservation strategy for the western population of the White-naped Crane. [Implementer: YU Qian]
Status: On track

T-068 Develop the 'Global Spoon-billed Sandpiper Conservation Action Plan'. [Implementer: CHEN Qing]
Status: On track

T-076 Develop a protection plan for the native Rhesus Monkey, and the management policy of introduction of non-native Rhesus Monkey. [Implementer: TIAN Jundong]
Status: On track

T-091 Assess the need and feasibility of the reintroduction of Big-headed Turtles to Shenzhen Nature Reserve. [Implementer: LIU Huining]
Status: On track

T-095 Develop a reintroduction plan for the Burmese Python to Shenzhen Nature Reserve. [Implementer: LIU Huining]
Status: On track

T-096 Develop the Tianshan Racerunner Plan. [Implementer: GUO Xianguang]
Status: On track

T-119 Develop a Blue Shark conservation plan in the Western Pacific. [Implementer: LI Yunkai]
Status: On track

T-123 Protection and Conservation of *Dendrobium fanjingshanense* Z.H.Tsi ex X.H.Jin and Y.W.Zhang.
Status: On track

T-124 Develop a Dugong reintroduction program. [Implementer: ZHOU Jinfeng and MA Sheng]
Status: On track

ACT

T-005 Supplement and revise the Red List of China's Biodiversity – key macrofungal taxa. [Implementer: CAI Lei, Wei Tiezheng and WANG Ke]
Status: On track

T-015 Implement conservation action of *Quercus arbutifolia* and *Quercus litseoides*. [Implementer: SONG Yigang]
Status: On track

T-016 Conduct conservation on *Cypripedium subtropicum* and other *Cypripedium* species. [Implementer: GAN Wenqing]
Status: On track

T-019 Implement *ex situ* conservation of five Threatened species found in Lushan, Jiangxi Province, China. [Implementer: QIN Haining]
Status: On track

T-020 Introduce and breed *Euonymus aquifolium*. [Implementer: HU Jun]
Status: On track

T-023 Conserve Paperbark Maple (*Acer griseum*) in non-protected areas. [Implementer: WANG Kang]
Status: On track

T-025 Restore populations of *Dendrobium officinale*. [Implementer: GAO Jiangyun]
Status: On track

T-027 Conduct studies on Endangered seed plants in Dehang Geopark of Hunan province. [Implementer: CHEN Gongxi]
Status: On track

T-029 Undertake taxonomy and phylogenetics of Hypnaceae (Bryophyta). [Implementer: YI Zhaoqin]
Status: On track

T-034 Evaluate Threatened status and Endangered category for national key protected and wild plants in Jiangsu. [Implementer: ZHANG Guangfu]
Status: On track

T-039 Investigate and conserve *Luehdorfia chinensis* and its habitat. [Implementer: SONG Zhishun and ZHANG Songkui]
Status: On track



Tylotriton shanjing in Yuanyang, Yunnan, China
Photo: Erin Packard (CC BY-SA 3.0)

T-041 Protect Chinese Horseshoe Crab and its habitat along the Fujian coast. [Implementer: WENG Chaohong]
Status: On track

T-047 Establish a platform of popular science propaganda for ChSSG/Freshwater Fish Specialist Group. [Implementer: ZHAO Yahui]
Status: Achieved

T-049 Conduct investigation and protection of threatened species in the Salamander family in Fujian. [Implementer: JIANG Hangdong]
Status: On track

T-053 Provide advice on the reintroduction of Sarus Crane in China. [Implementer: KONG Dejun]
Status: Not initiated

T-055 Develop conservation action planning on the Black-necked Crane. [Implementer: KONG Dejun]
Status: On track

T-056 Conserve Siberian Crane's eastern population. [Implementer: YU Qian]
Status: On track

T-060 Assess habitat quality and conduct ecological studies on Green Peafowl in China. [Implementer: KONG Dejun]
Status: On track

T-061 Conserve Hornbills in Yunnan. [Implementer: ZHENG Xi]
Status: On track

T-062 Conserve River Tern in Yunnan. [Implementer: ZHENG Xi]
Status: On track

T-064 Research on diversity and conservation of birds in Gongga Mountains. [Implementer: WU Yongjie]
Status: On track

T-066 Implement Waterbirds conservation in Weitou Bay, Fujian Province. [Implementer: JIANG Hangdong]
Status: On track

T-071 Implement conservation and restoration of Spoon-billed Sandpiper key habitats using Nature-based Solutions (NbS). [Implementer: CHEN Qing]
Status: On track

T-072 Conduct field ecological research on Green-tailed Pheasant and Red-throated Pheasant. [Implementer: RAN Jianghong]
Status: On track

T-073 Assess the habitat of mammals and the effectiveness of protected areas in Xinjiang and Central Asia under climate and human activities. [Implementer: WANG Muyang]
Status: On track

T-074 Foster community pioneers for Qomolangma Snow Leopard conservation. [Implementer: GONG Ziling]
Status: On track

T-075 Conduct Otter survey in Guangdong-Hong Kong-Macao Greater Bay Area. [Implementer: LI Fei]
Status: On track

T-078 Conserve Snow Leopard and ungulates in key mountains of the West of Inner Mongolia. [Implementer: LIANG Bin]
Status: On track

T-079 Implement conservation of carnivores and their prey populations. [Implementer: LIU Xu]
Status: On track

T-080 Investigate Macaque and Tibetan Chieftain Monkey in Sichuan. [Implementer: RAN Jianghong]
Status: On track

T-083 Protect Everest Snow Leopard. [Implementer: GONG Ziling]
Status: On track

T-084 Conduct biodiversity research of Southwest Mountain Shrews. [Implementer: TANG Keyi]
Status: On track

T-085 Undertake phylogenetic and taxonomic determination of the genus *Musca* in China. [Implementer: CHEN Shunde]
Status: On track

T-100 Conserve Indo-Pacific Humpback Dolphin in the Xiamen Bay. [Implementer: WANG Xianyan]
Status: Achieved

T-101 Conserve fisheries in the Yellow Sea and Bohai Sea. [Implementer: ZHAO Linlin]
Status: On track

T-104 Implement conservation of the Indo-Pacific Humpback Dolphin. [Implementer: HUANG Xianglin]
Status: Achieved

T-108 Implement marine Chondrichthyes conservation in China-ASEAN Seas. [Implementer: DU Jianguo]
Status: On track

T-111 Breed and release 500 Sea Turtles. [Implementer: XIA Zhongrong]
Status: Achieved

T-112 Investigate Turtle resources on the north coast of the South China Sea. [Implementer: XIA Zhongrong]
Status: Achieved

T-113 Mark and tag 20 sea turtles. [Implementer: XIA Zhongrong]
Status: On track

T-114 Monitor the extant largest Green Turtle nesting ground, the Xisha Islands. [Implementer: LIU Min]
Status: On track

T-115 Understand hot spots and migratory patterns of Sea Turtles along coastal waters of China based on satellite tracking. [Implementer: LIU Min]
Status: On track

T-116 Clarify taxonomy and geographical distribution of *Pampus* fishes in the world. [Implementer: LI Yuan]
Status: On track

T-121 Conduct surveys on Seagrass beds and Coral reefs at the Xisha Islands with the focus on Coral Reef Fishes. [Implementer: LIU Min]
Status: On track

T-122 Investigate habitats of Seahorses in the Taiwan Strait. [Implementer: LIU Min]
Status: On track

T-126 Common Otter Conservation in Greate Bay Area in China [Implementer: YIN Yuzhu]
Status: On track

T-128 Provide training for protected area staff on species monitoring and conservation. [Implementer: XIE Yan]
Status: On track

NETWORK

T-001 Establish a ChSSG expert network. [Implementer: XIE Yan]
Status: On track

T-008 Establish a ChSSG Macrofungi expert network. [Implementer: CUI Baokai]
Status: On track

T-017 Establish the China plant Red List volunteer platform. [Implementer: LIU Huiyuan]
Status: On track

T-018 Establish a ChSSG expert network for Jiangxi Province, China. [Implementer: QIN Haining]
Status: On track

T-045 Establish a ChSSG/Freshwater fish experts' network. [Implementer: ZHAO Yahui]
Status: Achieved

T-046 Establish a ChSSG/Freshwater fish task team. [Implementer: ZHAO Yahui]
Status: Achieved

T-059 Establish a conservation network for Great Bustard. [Implementer: LIU Gang]
Status: On track

T-070 Establish the Spoon-billed Sandpiper Conservation Alliance. [Implementer: CHEN Qing]
Status: On track

T-081 Establish a network of protected areas for Black Langurs and biocultural conservation of the species in Guizhou. [Implementer: NIU Kefeng]
Status: On track

T-089 Preliminary completion of the catalogue of wild animals and plants in Chengdu

and the online availability of districts and counties. [Implementer: WU Jiawei]
Status: On track

T-106 Establish a ChSSG marine mammal expert network. [Implementer: WANG Xianyan]
Status: On track

T-127 Establish a ChSSG youth network. [Implementer: GAO Yufang]
Status: On track

COMMUNICATE

T-003 Held the ChSSG Annual Meeting each year. [Implementer: XIE Yan]
Status: On track

T-088 Produce popular science books (especially on those biological groups with less attention). [Implementer: LI Yifan]
Status: On track

T-102 Establish environmental education programmes about the conservation of the Indo-Pacific Humpback Dolphin. [Implementer: WU Haiping]
Status: On track

Activities and results 2023

ASSESS

Communication

T-077 Revise taxonomy and distribution for Chinese Talpidae species. [Implementer: HE Kai] (KSR 5)

Update Talpidae mole species list with distribution information: Ongoing.

Result description: We conducted fieldwork 5 times and found two new records (the first record of *Mogera insularis* in mainland China and the first record of *Euroscaptor kuznetsovi* in Guangdong).

Policy

T-038 Conduct conservation of Horseshoe Crab in Guangdong. [Implementer: XIE Xiaoyong] (KSR 6)

Number of national plans incorporating KBAs in their spatial planning: 0

Result description: There are six Horseshoe Crab Marine Protected Areas (MPAs) in Guangdong Province. However, the baseline

information on distribution, size and trend of Horseshoe Crab populations is virtually unknown. The lack of information has hindered the formulation of scientific management strategies and conservation actions. In this study, field surveys were conducted to investigate the current status of Horseshoe Crab populations in each of the six MPAs, and to analyse the macrobenthic communities in the intertidal zone. The results showed that juvenile Horseshoe Crabs were only found in Suixi Chinese Horseshoe Crab and Xuwen mangrove Horseshoe Crab MPAs. The abundance of the juveniles within Xuwen MPA was considerably low, i.e., only two juveniles were found. The abundance in Suixi MPAs was 6.45 individuals per 100 m², but the number of individuals in the young size group was much lower compared to that of the elder group. The analysis of functional groups of macrobenthos in the MPAs intertidal areas demonstrated that those from Suixi were mainly plankton feeders, while those from Xuwen were primarily phytoplankton feeders. Plankton, microalgae, phytoplankton, and other natural food sources are abundantly available, which can fulfil the feeding requirements of the juveniles. The population surveys within the Horseshoe Crab MPAs revealed the unsatisfactory situation of Horseshoe Crabs in Guangdong Province, and the management of these MPAs should be improved urgently. Conservation actions such as upgrading the protection level of the Horseshoe Crab, establishing a scientifically sound restocking program and effective management measures are imperatively required.

Research activities

T-002 Conduct research on correlation between species and their diversity and conditions for the long-term survival of human beings. [Implementer: XIE Yan] (KSR 5)

Developed eight taxon group assessment reports: 0

Result description: An 'Eco-Security System for All People · International Forum on Species' was hosted by IUCN SSC China

Species Specialist Group on October 29, 2023. A piece of conservation news has been accepted by *Oryx* and will be published in March 2024.

T-004 Conduct research on China Species Conservation Priority Setting. [Implementer: XIE Yan] (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 4

Result description: Funding was secured by Guangxi Hepu Dugong National Protected Area for long-term population monitoring of Asian Horseshoe Crabs in the protected area.

T-006 Assess *Boletus citrifragrans*. [Implementer: WU Gang] (KSR 6)

Confirm the threat level of *Boletus citrifragrans*: Ongoing.

Result description: In 2023, an in-depth field investigation and interviews were conducted in Baoshan, Yunnan, the model site of *B. citrifragrans*. Ultimately, it was determined that the species is a synonym for *Rugiboletus extremiorientalis*, with the latter species currently assessed as Least Concern (LC).

T-033 Assess the endangered status of China's Gesneriaceae. [Implementer: WEN Fang] (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 0

Result description: As of now, work has been carried out on 805 species (including lower taxa) of known members of the Gesneriaceae family in China. The majority of Gesneriaceae species in China are distributed in the southwestern to southern regions, with a particularly rich diversity of endemic and narrowly distributed species. Many Gesneriaceae species are highly specialized to specific microhabitats, making them highly vulnerable to both internal and external disturbances. To better understand the endangered status of known Gesneriaceae species in China, we conducted a statistical analysis and

reassessment of their Endangered status based on relevant literature, recent publications on Endangered assessments in newly classified taxa, and firsthand data obtained from field surveys in recent years. Additionally, leveraging the platforms of the Gesneriaceae Professional Committee of the Chinese Wild Plant Conservation Association, the National Gesneriaceae Germplasm Repository at the Guangxi Institute of Botany, and the Chinese Gesneriaceae Plant Conservation Center, we have pioneered a new model for species conservation that synchronously integrates the discovery and publication of new species, assessment of Endangered status, immediate conservation initiatives, and cultivation of horticultural new varieties. The analysis results indicate the necessity to enhance the attention of relevant government departments to the conservation of Gesneriaceae plant diversity.

T-037 Investigate biodiversity of Chironomidae from Dawei Mountain. [Implementer: LIN Xiaolong] (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 0

Result description: We have collected lots of specimens by malaise traps in 2023, and are identifying these specimens.

T-044 Assess freshwater Planarian species, distribution range, population size, ecology and Endangered situation in the Tibet Plateau and Northeast China. [Implementer: CHEN Guangwen and DONG Zimei] (KSR 6)

Number of new EICAT assessments published: 0

Result description: We have investigated the situation of freshwater rotifers in some areas of Northeast China and Tibet. With changes in water resources and tourism development in some areas, certain habitats of freshwater rotifers have been damaged, necessitating urgent investigation in these regions. Currently, six new species have been discovered in these two areas.

T-050 Conserve the Little Gland Frog (*G. minima*). [Implementer: JIANG Hangdong] (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 1

Result description: In September 2023, with the support of the Zhi Lan Foundation, monitoring, and conservation efforts for the *Microhyla* Frog were initiated in Fujian Province. A conservation team composed of volunteers, community members, habitat management agencies, and university researchers has been established. The Ling Shi Forest Park Management Office in Fujian has pledged to collaborate with the team to conduct specialised habitat management and restoration work for the *Microhyla* Frog within the park's boundaries, aiming to increase suitable microhabitats for the frog's habitat.

T-057 Develop a citizen science-based online bird database. [Implementer: LEI Jinyu] (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 0

Result description: The annually collected data increased by 40% based on the year of 2023. Based on the analysis of the citizen science data, the Annual Report of China Birds 2022 was compiled and released in September 2023 together with 90 more bird-related organisations.

T-058 Draft list of Chinese avian genetic diversity. [Implementer: WANG Pengcheng] (KSR 5)

Genetic diversity list of 200 avian species: Ongoing.

Result description: The project has collected 50 avian sequences and calculated the genetic diversity.

T-087 Monitor biodiversity with public participation in Zigong, Sichuan. [Implementer: LI Yifan] (KSR 5)

Establish and maintain information datasets of biodiversity monitoring at the municipal level: Ongoing.

A Snow Leopard (*Uncia uncia*)
Photo: Bernard Landgraf (CC BY-SA 3.0 DEED)



Result description: In 2023, 17 species of birds were newly recorded in Zigong (including two species of Level I and two species of Level II in the National Key Protected Wild Animal List of China), together with three species of reptile (*Plestiodon capito*, *Achalinus spinalis*, *Sibynophis chinensis*).

T-105 Conserve the Spotted Seal in the Yellow Sea and Bohai Sea. [Implementer: LU Zhichuang] (KSR 5)

Monitoring population situation of the Spotted Seal in the Yellow Sea and Bohai Sea: Ongoing.

Result description: Conducted eight trips to survey and monitor the distribution areas of Spotted Seals in the Yellow and Bohai Seas. Among them, three trips focused on investigating breeding areas, while five trips focused on habitat areas. These surveys supplemented the basic data for the assessment of the Spotted Seal population. No significant changes were found in the population numbers in traditional breeding and habitat areas compared to historical monitoring results. Thus, the population of Spotted Seals remains stable.

T-117 Investigate fish species diversity in the Beibu Gulf, northwestern South China Sea. [Implementer: WANG Xuehui] (KSR 5)

Assess fish species diversity in the Beibu Gulf, northwestern South China Sea: Ongoing.

Result description: Species of aquatic animals (fish, crustaceans, and cephalopods) recorded in fisheries resource surveys during 41 trips between 1992-1993, 1998-2002, and 2006-2017 have been compiled.

PLAN

Planning

T-076 Develop a protection plan for the native Rhesus Monkey, and the management policy of introduction of non-native Rhesus Monkey. [Implementer: TIAN Jundong] (KSR 8)

Protection plan for the native Rhesus Monkey and management policy for non-native individuals developed: Ongoing.

Result description: Through internet searches and field investigations, it was discovered that there are at least 54 areas in mainland China where non-native Rhesus Monkey have been introduced. Among these, 23 areas in Beijing, Shandong, Jiangsu, and Hebei provinces are confirmed with introductions of Macaques. Furthermore, in some areas (no fewer than 10), the introduced Macaques originated from earlier sources such as poorly managed Macaque breeding facilities. Through literature meta-analysis, the average expected heterozygosity of 13 local Macaque populations was found to be 0.748 (SD = 0.065), with an average inbreeding coefficient of 0.124 (SD = 0.136). For one introduced Macaque population (with complex source population origins), the expected heterozygosity was 0.644, and the inbreeding coefficient was 0.101. One Macaque group, introduced around the year 2000 from a Macaque breeding facility and released due to poor management, has been observed. After approximately 20 years of wild development, the group has expanded from an initial population of around 30 to approximately 100 individuals. Furthermore, no local wild Macaque populations have been found nearby, making it an important resource for assessing the impact of introduced Macaque populations on the local environment.

T-119 Develop a Blue Shark conservation plan in the Western Pacific. [Implementer: LI Yunkai] (KSR 8)

Blue Shark conservation plan developed: Ongoing.

Result description: We have set up 10 Blue Shark satellite tags and tracked their migration patterns and retrieved nine tags in the Western Pacific during the survey carried out from June to October 2023.

ACT

Conservation actions

T-015 Implement conservation action of *Q. arbutifolia* and *Q. litseoides*. [Implementer: SONG Yigang] (KSR 10)

Implement the *in situ* and *ex situ* conservation of *Q. arbutifolia* and *Q. litseoides*: Ongoing.

Result description: With six field surveys, we finished all population studies and collection of *Q. arbutifolia* and *Q. litseoides*. The status of these populations is clearer. During the field survey, we also collected materials from all populations for conservation genomics study. We also collected seeds of *Q. litseoides* and have some seedlings of this species (for *ex situ* conservation).

T-016 Conduct conservation on *C. subtropicum* and other *Cyrtopodium* species. [Implementer: GAN Wenqing] (KSR 10)

Conduct conservation actions on *C. subtropicum* and other *Cyrtopodium* species: Ongoing.

Result description: The conservation of *C. subtropicum* involves the artificial propagation of the species which is the most difficult part of the conservation of this rare Slipper Orchid that is facing the fragmentation of natural habitats, making it challenging to thrive. Under the cooperation of the Yunnan Academy of Forestry and Grassland, we could obtain seeds from an established reserve where the mother plants are from confiscated illegal potted plants. Through six years of research, we could develop the method of artificial propagation know-how, which is much more difficult than other species in the *Cyrtopodium* genus, and the results are published in *Botanical Studies*: '*C. subtropicum* embryo development and cytokinin requirements for a symbiotic germination'. The seedlings are planted in a greenhouse in the academy in Yunnan and the ripped-off previous habitat (Malipo Yunnan) in both locations, are developing well. We hope in about 2-3 years, the plants can

reach maturity and flowering, realize their reproductions in nature and reach the goal of *in-ex situ* conservation.

T-020 Introduce and breed *E. aquifolium*. [Implementer: HU Jun]. (KSR 10)

Number of Threatened species benefiting from *in situ* conservation action: 10

Result description: We collected the seeds and branches of *E. aquifolium* and successfully carried out artificial breeding.

T-023 Conserve Paperbark Maple (*A. griseum*) in non-protected areas. [Implementer: WANG Kang]. (KSR 10)

Number of threatened species benefiting from *in situ* conservation action: 0

Result description: A wild survey in Hubei and Henan Province was carried out and cuttings were collected for grafting in the garden. Hopefully, the wild resources of the non-protected area could be *ex situ* in the garden.

T-025 Restore populations of *D. officinale*. [Implementer: GAO Jiangyun] (KSR 10)

Number of threatened species benefiting from *in situ* conservation action: 0

Result description: Using the autonomously developed efficient fungal strain *Sebacinales* LQ as the material, research on seed pre-inoculation technology has been conducted. Utilizing drones, a mixture of *Sebacinales* fungi and seeds has been broadcasted directly into the habitat of *D. officinale* in Guangnan, Yunnan. Three broadcasts have been completed, covering an area of approximately 5,000 acres of forest land. The aim is to restore the wild resources of *Dendrobium officinale* in Guangnan using drone technology for broadcasting fungal-seed suspension mixtures.

T-027 Conduct studies on Endangered seed plants in Dehang Geopark of Hunan province. [Implementer: CHEN Gongxi] (KSR 10)

Number of conservation translocations conducted: 0

Result description: In 2023, more than 10 investigations were conducted at the Dehang Geological Park. Two new species

are under study, and one paper on the conservation of rare and endangered plants has been published: 'Quantitative Research on Priority Conservation Grades of Rare and Endangered Seed Plants in the Dehang Geological Park, Hunan'.

T-029 Undertake taxonomy and phylogenetics of Hypnaceae (*Bryophyta*). [Implementer: YI Zhaoqin] (KSR 10)

Number of conservation translocations conducted: 0

Result description: We attended the 2023 Chinese Bryological Academic Conference, conducted two field moss collection expeditions, and evaluated the possibility of publishing two articles.

T-034 Evaluate Threatened status and Endangered category for national key protected and wild plants in Jiangsu. [Implementer: ZHANG Guangfu] (KSR 10)

Number of conservation translocations conducted: 3

Result description: We have finished performing the early spring and autumn surveys in 2023. The target species include *Parrotia subaequalis*, *Yulania zenii*, and *Changnienia amoena* in the mountain areas of southern Jiangsu. In addition, we have preliminarily completed compiling the checklist of key protected wild plants in Jiangsu.

T-047 Establish a platform of popular science propaganda for ChSSG/Freshwater Fish Specialist Group. [Implementer: ZHAO Yahui] (KSR 10)

Number of technical documents provided to support conservation actions: 1

Result description: In 2023, we established and implemented conservation activities at the Yangtze River Estuary Workshop. Establishment of the Yangtze River Estuary Chinese Sturgeon Conservation Workshop, targeting members of the public, fishermen, technicians from the Shanghai Aquatic Wildlife Conservation Research Center, and others, disseminating rescue and conservation knowledge through popular science exhibitions, conservation education, field

trips, technical training, etc. Compilation of a Chinese Sturgeon promotional handbook. We also created an Endangered Aquatic Animal Douyin Account, utilizing the Douyin platform to release educational promotional videos about endangered aquatic animals, introducing their ecological habitats, behaviours, threats, and conservation measures. Attracting user attention and promoting conservation awareness through interesting content and visual representation. Five videos on endangered animals have been published, with a total of 39 followers. And finally, we had the publication of six articles on Chinese Sturgeon Popular Science Education on the Ecological Physiology WeChat Public Account on the Coast of the East China Sea.

T-066 Implement Waterbirds conservation in Weitou Bay, Fujian Province. [Implementer: JIANG Hangdong] (KSR 10)

Waterbird habitat stability: Ongoing.

Result description: In 2022, we continued with waterbird surveys; a total of 14 waterbird surveys have been organised, documenting the population numbers of the Chinese Crested Tern, Spoon-billed Sandpiper, and Red-necked Stint. Attended conservation seminars for the Chinese Crested Tern in Xiangshan, Zhejiang, and Changle, Fujian, and delivered keynote speeches, advocating for enhanced protection of the Chinese Crested Tern's offshore habitat. We also collaborated with the Quanzhou Birdwatching Society to negotiate with the Quanzhou municipal government on improving the method of replacing offshore floating objects, which are the primary perching substrate for the Chinese Crested Tern.

T-075 Conduct Otter survey in Guangdong-Hong Kong-Macao Greater Bay Area. [Implementer: LI Fei] (KSR 10)

Survey report completed: Ongoing.

Result description: In 2023, a survey was conducted on 850 individuals of Eurasian Otters across 81 locations in the Guangdong-Hong Kong-Macao Greater Bay Area. A total of 117 transect surveys were

conducted, covering approximately 140 km in total. The movements of Eurasian Otters were recorded in Shenzhen Bay, Qi'ao Island, Hengqin Island, and Gaolan Island.

T-078 Conserve Snow Leopard and ungulates in key mountains of the West of Inner Mongolia. [Implementer: LIANG Bin] (KSR 10)

Evidence for Snow Leopard existence or absence: Ongoing.

Result description: In 2023, data from 19 infrared cameras were retrieved from Langshan (August 2021 to January 2023), revealing severe grazing in the area. The most recorded species was the domestic sheep, with other common domestic animals including cattle, horses, and camels. Among the wildlife species, the most recorded was the Argali, followed by Red Foxes, Hares, and Rock Ptarmigans. Data from 44 infrared cameras in Yabulai Mountain (August 2021 to January 2023) showed that despite being an autonomous region-level protected area (Inner Mongolia Badain Jaran Nature Reserve), grazing activities were also significant. The most recorded species was domestic sheep, with a significant presence of domestic cattle, Camels, and Horses. Among wildlife species, the Argali was most recorded, followed by Rock Ptarmigans, Ferret-badgers, and Red Foxes. Only one photo of a Lynx and one faecal record of a Leopard Cat were recorded. Eight infrared cameras were set up in Bayannur Mountain, approximately 20 in Helan Mountain and Zhuozishan in Wuhai, and approximately 25 in Mazong Mountain in Gansu. Data from these cameras are awaiting retrieval in the following year. In summary, in 2023, we conducted one wildlife transect survey in each mountainous area of western Inner Mongolia: Langshan, Yabulai Mountain, Bayannur Mountain, Helan Mountain, Zhuozishan, and Mazong Mountain, deploying a total of approximately 150 infrared cameras. Species such as the Leopard Cat, Pallas's Cat, and Lynx were recorded in Yabulai Mountain, filling in the species distribution records for that area.

T-101 Conserve fisheries in the Yellow Sea and Bohai Sea. [Implementer: ZHAO Linlin] (KSR 10)

Spatial distribution of important fishes in the Yellow Sea and Bohai Sea: Ongoing.

Result description: In 2023, relying on the field scientific observation research station of the Bohai Strait Ecological Corridor established by the Ministry of Natural Resources, a fish environmental DNA monitoring task was conducted in the Yellow and Bohai Seas region, covering 46 sites. More than 50 species of fish were detected, and the spatial distribution of several important fish species was evaluated based on species distribution models.

T-111 Breed and release 500 Sea Turtles. [Implementer: XIA Zhongrong] (KSR 10)

Number of released Sea Turtles: 800

Result description: We bred and released more than 800 Sea Turtles in 2023.

T-112 Investigate Turtle resources on the north coast of the South China Sea. [Implementer: XIA Zhongrong] (KSR 10)

Investigate at least 10 potential spawning beaches or islands in Guangdong, Fujian, Guangxi, and Hainan: Achieved.

Result description: In 2023, we investigated the beaches and islands in Daya Bay, Shuangheyue Bay; Honghai Bay; the gold coast beach Wuyang Town, Wuchuan city; Naozhou Island; Xuwen County Seaside Zhanjiang City; Guangxi North Beach; Weizhou Island etc. In total, we have investigated 11 sites.

T-113 Mark and tag 20 Sea Turtles. [Implementer: XIA Zhongrong] (KSR 10)

Number of marked and tagged Sea Turtles: 4

Result description: We had marked and tagged a total of 4 Sea Turtles in 2023. In total, up to date, 17 Sea Turtles have been marked.

T-121 Conduct surveys on Seagrass beds and Coral reefs at the Xisha Islands with the focus on Coral Reef Fishes. [Implementer: LIU Min] (KSR 10)

List of classified and identified species: Ongoing.

Result description: In 2023, a list of Coral reefs and Sea Grass bed fishes in the the Xisha Islands was made.

Technical advice

T-049 Conduct investigation and protection of Threatened species in the Salamander family in Fujian. [Implementer: JIANG Hangdong] (KSR 10)

Number of technical consultations provided to support conservation actions: 1

Result description: In September 2023, with the support of the Zhi Lan Foundation, an investigation, monitoring, and conservation initiative for species of the *Tylototriton* genus in Fujian Province was launched. Five field surveys have been conducted, resulting in the discovery of one new distribution point for the Fuding Crocodile Newt and four county-level new distribution points for the Chaoshan Crocodile Newt. A preliminary amphibian investigation team has been established, involving volunteers, community members, and university researchers, laying the foundation for local conservation efforts for amphibians.

NETWORK

Membership

T-001 Establish a ChSSG expert network. [Implementer: XIE Yan] (KSR 2)

Number of SSC members recruited: 70

Result description: In 2023, the number of ChSSG members has increased by about 70. New members are mainly marine experts including on plants and invertebrates.

T-045 Establish a ChSSG/Freshwater fish experts' network. [Implementer: ZHAO Yahui] (KSR 2)

Number of SSC members recruited: 40

Result description: We have done the recruitment for the freshwater fish experts' group already. And we want to keep this group size for the next years. Therefore, there will not be many new recruitments in the upcoming years.



Cyripedium tibeticum
Photo: Patricia Harding (CC BY-SA 4.0)

T-046 Establish a ChSSG/Freshwater fish task team. [Implementer: ZHAO Yahui] (KSR 2)

Number of SSC members recruited: 4
Result description: We have already established 12 Task Groups by river basins and special work. All are going well. Therefore, we did not establish any new Task Group in 2023.

Proposal development and funding

T-081 Establish a network of protected areas for François’ Langurs and biocultural conservation of the species in Guizhou. [Implementer: NIU Kefeng] (KSR 1)

Population of Black Langurs rises; improved coexistence with humans: Ongoing.

Result description: The national reserves of François’ Langurs in Guizhou Province (Mayanghe, Kuankuoshui, Yezhong) were established as a network, and working with universities (Moutai Institute, Tongren University) for an application for Hong Kong Ocean Park conservation funding. NIU Kefeng was invited to have a speech/article to communicate with the public on the role of François’ Langurs in Chinese traditional culture. It is a part of our bioculture conservation project for the Langur. For instance, NIU Kefeng presented ‘The prototype of Sun Wukong: A perspective from Yuan’s name and identity throughout history’ at the conference organised by the Guizhou ornithological society in Guiyang. Meanwhile, NIU Kefeng wrote a magazine article on ‘Li Bai and His Yuan’ to communicate with the public in Zunyi, Guizhou.

**COMMUNICATE
Communication**

T-088 Produce popular science books (especially on those biological groups with less attention). [Implementer: LI Yifan] (KSR 12)

Number of officially published natural science books: 1

Result description: In 2023, we published ‘Yuru yuru Kikenseibutsu Zukan (Picturebook of Dangerous Wildlife)’, and the ‘Yuru yuru zetsumetsuseibutsu Zukan (Picturebook of Extinct Wildlife)’ was reviewed and will be published in 2024.

T-102 Establish environmental education programmes about the conservation of the Indo-Pacific Humpback Dolphin. [Implementer: WU Haiping] (KSR 12)

Environmental education programmes of conservation sciences and marine environment developed for local school students: Ongoing.

Result description: From January to December 2023, a total of 36 survey trips were conducted in the sea area from Sanniang Bay to Dafengjiang in Guangxi, covering a total survey route length of 2437.2 km. A total of 117 sightings of Chinese White Dolphins were recorded, totalling 599 individuals, with an average group size of 4.95 individuals. The distribution area of Chinese White Dolphins covered 165.1 km², with the core distribution area located in the sea area east of Sanniang Bay to the mouth of Dafengjiang, covering an area of 39.2 km². A total of 29 sessions of environmental education courses were conducted.

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Summary of achievements

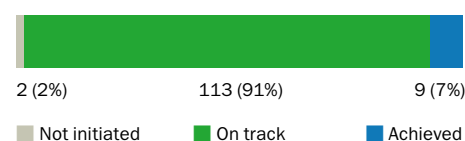
Total number of targets 2021–2025: 124

Geographic regions: 124 Asia

Actions during 2023:

Assess: 14 (KSR 5, 6)
Plan: 2 (KSR 8)
Act: 18 (KSR 10, 11)
Network: 4 (KSR 1, 2)
Communicate: 2 (KSR 12)

Overall achievement 2021–2025:





Nothobranchius fuscotaeniatus
Photo: Csenge Nagy



Tetra Parnaiba
Photo: Karina Molina



Trioceros hoehnelii
Photo: Christopher V. Anderson



Sternberia lutea
Photo: Hayri Duman



Egretta rufescens
Photo: Ernesto Gómez



Lactifluus neotropicus
Photo: Aida Vasco



Mayfly nymph (*Ecdyonurus* sp.)
Photo: Astrid Schmidt-Kloiber and Wolfram Graf