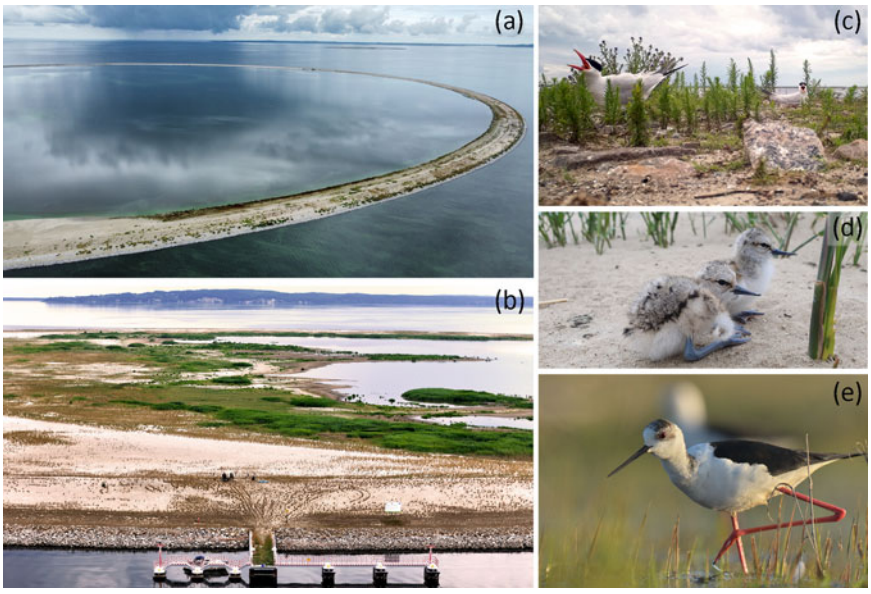


Artificial islands in the Szczecin Lagoon, Poland: (a) Śmięcka and Brysna; (b) Brysna Island; (c) camera-trap image of a Caspian tern *Hydroprogne caspia*, a new breeding species in Poland; (d) chicks of the pied avocet *Recurvirostra avosetta*, a species that established a colony of 44 pairs in 2024, nesting ephemerally in this zone; (e) one of two pairs of black-winged stilts on Brysna Island in 2024. Photos: Maciej Sobieraj (a), Maciej Przybysz (b), Łukasz Jankowiak (c), Marcin Sołowiej (d) and Miłosz Kowalewski (e).

this model of integrating environmental restoration with infrastructure projects can serve as an example globally. Further management should focus on predator control and maintaining early successional stages to ensure long-term population stability (Marchowski et al., 2023, *Ornis Polonica*, 64, 273–287).

Two years ago, the Oder River, into which these artificial islands extend, experienced an unprecedented ecological disaster that resulted in the death of millions of animals (Marchowski & Ławicki, 2023, *Oryx*, 57, 9). The use of these islands by bird populations highlights the potential for ecological recovery.

Dominik Marchowski[1] (*dmarchowski@miiz.waw.pl*), *Zbigniew Kajzer*[2], *Sebastian Michałowski*[2], *Paweł Stańczak*[2] *and Łukasz Jankowiak*[3]
[1]*Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw, Poland.* [2]*West Pomeranian Nature Society, Szczecin, Poland.* [3]*Institute of Biology, University of Szczecin, Szczecin, Poland*

Conserving the Bengal florican in Nepal: a collaborative education and awareness campaign

The Bengal florican *Houbaropsis bengalensis*, a Critically Endangered ground-nesting bird native to Nepal, India and Cambodia, is at high risk of extinction because of habitat loss and anthropogenic disturbance. In Nepal, the species is confined to three protected areas: Chitwan and Shuklaphata National Parks and Koshi Tappu Wildlife Reserve, with the latter an important stronghold. However, significant anthropogenic disturbances persist, driven by the dependence of local communities on natural resources within the Reserve, cattle being abandoned in foraging areas and a lack of awareness about the Bengal florican and its habitat.

In response, our team implemented a series of education campaigns, supported by the Conservation Leadership Programme and in collaboration with the Koshi Bird Society, during 8 May–3 June 2024. The campaigns targeted students across 11 schools (six in Koshi, two in Chitwan and three in Shuklaphata), focusing on the distribution and ecology of the florican, and threats to its conservation. A drawing competition was also held to stimulate conservation interest, and pre- and post-campaign surveys unequivocally demonstrated a positive shift in awareness.

To reinforce these efforts, we distributed bookmarks featuring conservation messages, and selected bio-monitors from each workshop to promote birding and conservation in their communities. Additionally, we conducted four community workshops (two in Koshi and two in Chitwan), engaging > 250 stakeholders, including farmers, teachers and fishers, in discussions of conservation challenges and solutions. Overall, our campaigns engaged > 900 students and > 250 community members, contributing to Bengal florican conservation in Nepal.

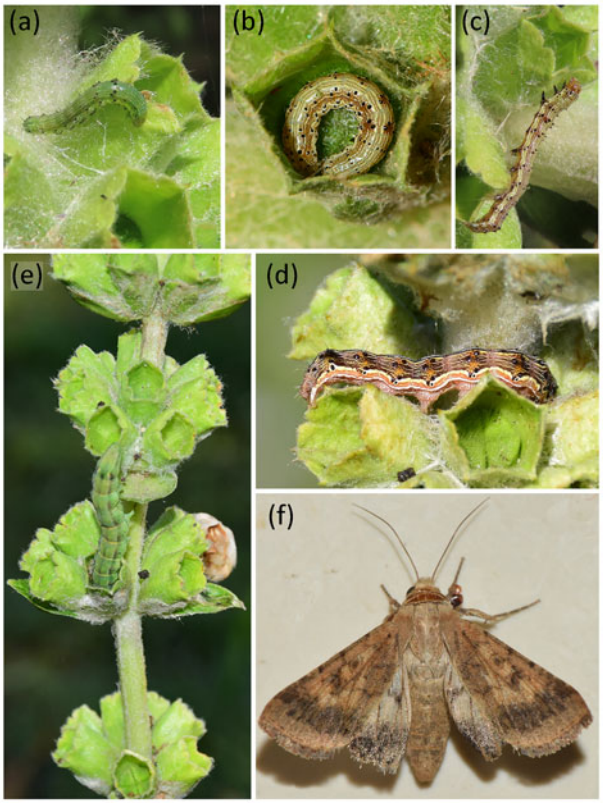
To broaden our conservation outreach, we launched the Bengal Florican Project (bengalflorican.org), which aims to engage people in Nepal, India and Cambodia in the conservation of the species.

Aditya Pal[1,2] (*mail2adityapal@gmail.com*), *Tika Regmi*[3], *Shruti Shakya*[1] *and Ganesh Sah*[2]
[1]*Central Department of Zoology, Institute of Science and Technology, Tribhuvan University, Kirtipur, Kathmandu, Nepal.* [2]*Nature Conservation and Research Committee,*

Dhanusha, Nepal. [3]*Ministry of Forests and Environment, Government of Nepal, Kathmandu, Nepal*

The moth *Helicoverpa armigera* is a leading cause of the decline of the Endangered golden Himalayan spike *Phlomoides superba*

The impacts of invasive invertebrates on plants are primarily studied on cultivated crops, with the effects on wild and threatened species mostly overlooked. The genus *Phlomoides* (Lamiaceae; common names include Jerusalem sage and Lampwick plant) comprises 174 species primarily occurring in Asia and some parts of Europe. The golden Himalayan spike *Phlomoides superba* (syn. *Eremostachys superba*) is an Endangered species (Srivastava et al., 2017, *Journal of Threatened Taxa*, 9, 10089–10095) endemic to the western Himalayan foothills of eastern Afghanistan, Pakistan and India, at altitudes of 450–800 m. There are concerns regarding its decline in natural habitats in several locations. The reasons are still poorly understood but low regeneration potential is one possible cause. In 2020, the species disappeared from its type locality in Mohand Pass, Dehradun, India.



Helicoverpa armigera infestation on *Phlomoides superba*: (a–d) 3rd–6th instar larval stage feeding on seed capsules, (e) final instar and emptied seed capsules, (f) female adult moth. Photos: Amber Srivstava.

In May 2023, we discovered that the major cause of the decline of *P. superba* appears to be infestation by an insect pest whose larvae feed on its seeds, leading to seed loss and thus affecting regeneration. In April 2024, we collected 20 larvae from three populations of *P. superba* in Jammu, India, and from plants growing in the garden of the Botanical Survey of India, Dehradun. We kept the larvae in transparent glass bottles for 25–32 days until pupation and emergence of the adult, which was then identified as the cotton bollworm *Helicoverpa armigera* (Lepidoptera: Noctuidae), a polyphagous, invasive moth globally recognized as a pest of c. 200 crops. From 1st to 3rd instar stage the larvae mainly feed on the tender leaves and then migrate to the seed capsules; we observed 90–95% seed loss in highly infested populations. Major infestations were found on *P. superba* near crop fields or human settlements. In ex situ conservation conditions, *P. superba* is growing well and regenerating at the Botanical Survey of India, Dehradun, where regular pesticide treatment controls the infestation, resulting in 95% seed survival and 84% seed germination.

The shift of crop pests to wild, threatened species needs to be monitored as many native and endemic species do not have natural defences against attacks by invasive pests. This discovery of the impact of *H. armigera* on a threatened wild plant species will be of help in development of a conservation protocol to address the ongoing decline of *P. superba*.

Amber Srivastava[1] *and Shivani Sharma*[2] *(shiva.skt.03@gmail.com)*
[1]*Botanical Survey of India, Northern Regional Centre, Dehradun, India.* [2]*Zoological Survey of India, Northern Regional Centre, Dehradun, India*

New subpopulations of three threatened plant species endemic to the karstic areas of the Potiguar Basin, Brazil

The flora of the karstic areas discontinuously exposed in the Potiguar Basin in north-east Brazil is poorly studied. However, three annual herbaceous flowering plant species have recently been described as endemic to these areas: *Borreria apodiensis* (Souza et al., 2016, *Acta Botanica Brasilica*, 30, 283–289), *Ipomoea apodiensis* (Wood et al., 2020, *PhytoKeys*, 143, 1–823) and *Pectis loiolae* (Rebouças et al., 2021, *Systematic Botany*, 46, 486–492), known from five, two and one locations, respectively. *Ipomoea apodiensis* is categorized as Endangered on the IUCN Red List, and recommendations have been made to categorize *B. apodiensis* and *P. loiolae* as Endangered and Data Deficient, respectively.

During February–July 2024, as part of project no. PIA10010-2022, we surveyed for new subpopulations of