

# Are we doing enough to protect the World's small wild cats?

42

**This report summarizes the discussion that emerged at the second international Small Wild Cat Conservation Summit held in Colombo, Sri Lanka, from 6 to 11 December 2019. Thirty one conservationists from 16 countries gathered to share and discuss the conservation status of the world's small wild cats. They shared their research and conservation experiences, identified common threats and locally appropriate threat reduction strategies. The key threats to the small wild cat species were identified as: habitat loss and degradation, human-small wild cat conflict, hunting and poaching and vehicle collisions. However, only ten small wild cat species with known conservation initiatives were represented at the summit. A third summit planned for 2022 is envisaged to have more participants and enable the representation of more small wild cat species.**

There are 40 species of wild felids (wild cats) worldwide, of which 33, in 11 genera, are classified as small cats (Kitchener et al. 2017; Fig. 1). Small wild cats, like big cats, occur on five continents: Africa, Asia, Europe, North America and South America. While the big wild cats such as tiger *Panthera tigris*, lion *P. leo*, jaguar *P. onca*, leopard *P. pardus*, snow leopard *P. uncia*, puma *Puma concolor*, and cheetah *Acinonyx jubatus* have received significant research and conservation attention, the small wild cats remain less studied (Brodie 2009). Yet, small wild cats provide vital ecosystem services typical of all predators (Silmi et al. 2013). In particular, in some areas where large predators have been extirpated, small wild cats are “ecologically released” (Crooks & Soule

1999) and have become apex predators (De Oliveira et al. 2010, Mills et al. 2012, Mohamed et al. 2013, Sheil et al. 2013). In these areas, small wild cats face globally increasing threats akin to those faced by big cats such as human-wild cat conflict, hunting and poaching, habitat loss and degradation. Thirteen of the world's small wild cat species are threatened with extinction. This means, that they are assessed as Endangered, or Vulnerable by the International Union for Conservation of Nature IUCN. Effective conservation of these species is further hampered by limited scientific knowledge, as they are far less studied than their larger big cat relatives (Brodie 2009). Small wild cats receive less than 1% of the conservation funding made available for

all the 40 wild cat species (Brodie 2009, J. Sanderson, pers. comm.). This has a direct influence on the volume of research and conservation actions undertaken for small wild cats. So far, of 33 species, only the Andean cat *Leopardus jacobita* (Bennett et al. 2016), guiña *Leopardus guigna* (Sánchez et al. 2017) and the Pallas's cat *Otocolobus manul* (Pallas's Cat Global Action Planning Group 2019) have global conservation action plans. Effective science-based strategy to ensure the survival of all threatened small wild cats is necessary, thereby ensuring the persistence of the ecosystem services they provide. In an effort to advance the conservation of small wild cats, the Small Wild Cat Conservation Summit (SWCCS), sponsored by the Mohamed bin Zayed Species Conservation Fund, Cincinnati Zoo, the Fishing Cat Fund and the Small Wild Cat Conservation Foundation gathered 31 conservationists from 16 countries (Supporting Online Material SOM Table T1) to Colombo, Sri Lanka for five days (6–11 December 2019).

This was the second such summit, following its successful maiden version in 2017 of the same name (Appel et al. 2018). Ten species of small wild cats were represented by the participants at the summit: African golden cat, Andean cat, bobcat, caracal, Eurasian lynx, fishing cat, guiña, leopard cat, Pallas's cat and pampas cat. The goal of the summit was to share experiences and discuss the conservation of the world's small wild cats. For the programme of the summit see SOM T2. The summit was co-organized by Badru Mugerwa, Anya Ratnayaka, Ashan Thudugala and Jim Sanderson.

## Species presentation summaries

### Fishing cat *Prionailurus viverrinus*

Ex-situ conservation (Linda Castañeda)

Ex-situ conservation of small wild cats not only provides a genetic bank to potentially revive wild populations but can also provide insights into the species biology such as behaviour and dietary requirements that is relevant for in-situ conservation of the species in the range countries (Bangladesh, Cambodia, India, Nepal and Sri Lanka).

Bangladesh (Sayam Chowdhury and Ai Suzuki)  
The most prevalent threats to fishing cats in Bangladesh are habitat loss and human-driven persecution, either in retaliation to live-stock/poultry depredation (Chowdhury et al. 2015) or out of innate fear of fishing cats and the misconception that they kill/hurt humans. Fear of the fishing cat is deeply embedded in local communities, leading to justification for its killing. In some cases, the species is perceived as being as dangerous as tigers. Public sensitization and awareness through outreach events reaching over 300 children at local schools have been conducted to change public attitudes towards the species. Forty local duck farmers have also participated in workshops aimed at developing mitigation measures for fishing cat depredation of ducks, mostly via installation of predator proof enclosures.

India

Lower Gangetic Floodplains and Chilika Lake Ramsar site (Tiasa Adhya)

The two key threats to the fishing cat in this area are habitat loss and human-driven persecution. Lawsuits and public outreach through social media and films are being used to effectively protect habitat from being converted. While interactions with stakeholders ranging from local residents to government bodies must be sustained, community-owned and managed self-sustaining conservation programmes are promising to reduce human driven persecution. For example, the implementation of a "goat seed bank" with a local non-governmental organization, in which economically backward community members are given pregnant goats on condition that at least one kid would be available to replace any goat that a neighbour might lose to a fishing cat. The second is the disbursement of 10 kg fry to fishermen on condition that they would provide food to the fry and help monitor fish loss to predators through a camera trap exercise.



**Fig. 1.** The world's small wild cats and their IUCN Red List status (in parenthesis after the scientific name); EN = Endangered, VU = Vulnerable, NT = Near Threatened and LC = Least Concern. Artwork generously donated by Amy Huxtable.

Godavari Delta, Andhra Pradesh (Giridhar Malla)

Fishing cats here take fish from aquaculture ponds. Consequently, fishermen respond by persecuting the cats in retaliation or by installing electric fences around the ponds to deter predators. Habitat destruction driven by the expanding commercial aquaculture is an emerging threat to the fishing cat in this region. Conservation education programmes in primary schools are ongoing to raise awareness of the species.

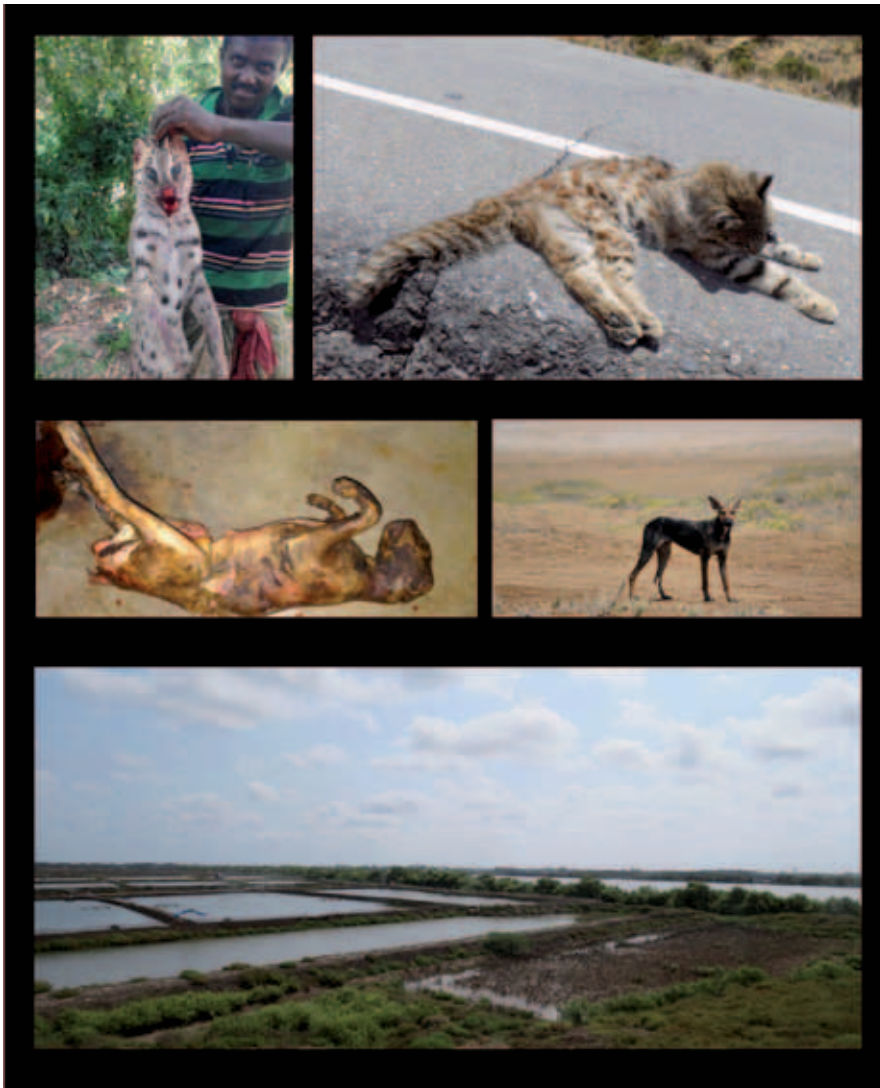
Eastern Ghats (Murthy Kantimahanti)

Fishing cats are killed by incidental capture in snares/traps for bushmeat hunting and direct hunting by guns for food. Further, habitat destruction through sand mining along

riverbanks and conversion of riparian buffer to agriculture are emerging threats (Kantimahanti et al. 2019). Alternative income generation activities for poachers and their families are being promoted to discourage poaching. Lawsuits have been effective to protect the habitat by stopping sand mining in the coastal mangrove forest.

Sri Lanka (Anya Ratnayaka and Ashan Thudugala)

Vehicle collisions, poaching, urbanization and human - fishing cat conflict are key threats to fishing cats in Sri Lanka. The urban wetlands of Colombo are prime fishing cat habitat but threatened by development. Road signs at vehicle collision hotspots have been installed to reduce fishing cat-



**Fig. 2.** Some of the threats facing the ten small wild cats represented at the summit. From top row left: human- small wild cat conflict and retaliatory persecution of fishing cats (Photo The Fishing Cat Project), a vehicle collision of a pampas cat (Photo Peruvian Desert Cat Project), hunting for food (Photo Murthy Kantimahanti), domestic animals (Photo Peruvian Desert Cat Project) and habitat loss and degradation (Photo Giridhar Malla).

vehicle collision. Engaging with the wildlife authority to mitigate poaching is ongoing. Human-fishing cat conflict is being mitigated through a combination of local community sensitization meetings on how to increase chicken and fish safety from fishing cat depredation, the introduction of chicken coops and compensation through “chicken seed banks”. A rehabilitation centre to cater for fishing cats rescued from local communities has also been constructed. Awareness programmes targeting the general public and government are likely to improve attitudes of the public towards fishing cat conservation. A citizen science programme has also been initiated to identify fishing cat distribution and vehicle collision hotspots throughout the island. Fishing cats are being used as flagship species for urban wetland

conservation in Colombo, a Ramsar accredited Wetland city since 2018.

#### Nepal (Sagar Dahal)

Fishing cats in Nepal are threatened by retaliatory killing for fish and poultry depredation, incidental poisoning from fishing, domestic dogs, hunting for food and fur, vehicle collisions, habitat degradation and destruction. Public awareness programmes to school children, fishing communities and politicians are ongoing to increase support for the fishing cat conservation. Over 50 families who have lost poultry to fishing cats have been introduced to predator proof chicken coops as a way of preventing further depredation.

#### Cambodia (Vanessa Herranz)

Fishing cats in Cambodia are threatened by

hunting for food and retaliatory persecution for domestic fowl predation as well as damage to fishing equipment. Water hyacinth clogging channels, sand mining and illegal logging are emerging threats to the species habitat. Community engagement through village meetings and workshops are ongoing to create awareness on the fishing cat and the threats to its survival. Law enforcement support through capacity building and equipment provision to local environment and wildlife protection office are being used to combat poaching, illegal logging and land grabbing.

#### Leopard cat *Prionailurus bengalensis* Japan (Nozomi Nakanishi)

The primary threat to the leopard cat on the islands of Iriomote and Tsushima in Japan for the last two decades has been vehicle collisions. The local governments and environmental agencies have built underpasses for the cats and set up movable road signs to warn drivers of the possible presence of leopard cats. In winter when leopard cats become active for dispersal and mating, flyers and stickers to raise awareness on heightened leopard cat presence on highways are distributed as a part of the leopard cat vehicle collision prevention campaign.

#### Pallas's cat *Otocolobus manul* Mongolia (Buyandelger Suuri)

The Pallas's cat in Mongolia is threatened by habitat degradation, hunting and unintended killing of manul, and rodent prey declines due to vermin control of the Brandt's vole (*Lasiopodomys brandtii*). Over 2,500 trees have been planted in the Eastern Mongolian steppe which the Pallas's cat use for shade during the increasingly warming summers. Twenty individuals of the Mongolian marmot *Marmota sibirica* have also been re-introduced in Eastern Mongolian steppe to increase burrows which the Pallas's cat use during freezing winters. Public awareness programmes including conservation education and eco-tourism are ongoing to raise the species' profile to local people and the international community.

#### I. R. Iran (Niloufar Raeesi)

The Pallas's cat in Iran is threatened by feral dogs, hunting, habitat loss and prey reduction (Moqanaki et al. 2019). Raising awareness among local people using an infographic poster is the only conservation initiative feasible at the moment. Research projects and conservation initiatives to iden-



tify and reduce threats to wild cats in Iran have been and are continually hampered by international sanctions currently imposed on Iran and financial pressures on the environmental sector which make fundraising nearly impossible.

#### African golden cat *Caracal aurata*

Uganda (Badru Mugerwa)

The African golden cat in Uganda is threatened by both directed poaching for skin and incidental capture in snares and traps as poaching bycatch or "collateral damage" (Mugerwa et al. 2013). Engagement with local wildlife authorities and reformed (ex-) poachers through piggery as a source of alternative livelihood and meat has potential to dissuade poaching in three protected areas; Bwindi Impenetrable National Park, Kasyoha-Kitomi and Echuya Forest Reserves. Moreover, the piggery initiative is designed as a "pig seed bank" so as to not only benefit poachers, but the entire local community. The pig seed bank works by providing a pig to poachers. When that pig has offspring, at least one female piglet is given to the nearest neighbour household in exchange for voluntary community policing against poaching and other threats to African golden cats.

#### Caracal *Caracal caracal*

South Africa (Marine Drouilly and Laurel Serieys)

In South Africa, the African golden cat's closest relative, the caracal is most threatened by vehicle collisions, poaching, inbreeding, disease, habitat loss, retaliatory killing through hunting, trapping and incidental poisoning by pesticides used in rodent pest control programmes (Serieys et al. 2019). Caracals are responsible for the majority of domestic cat and dog kills in suburban areas and for important livestock losses on farmland. Indeed, caracals are a major threat to the financial sustainability of the small livestock industry (Drouilly et al. 2018). Together with the city of Cape Town and South Africa National Parks, regular patrols to mitigate poaching and strategic outreach campaigns are ongoing to discourage the communities' use of pesticides as a rodent control strategy. Constantly engaging local farmers to change their perceptions about caracals and discourage further retaliatory killing, as well as the use of livestock guarding dogs is a promising threat reduction initiative. A plan for a genetic rescue to mitigate the threat due to inbreeding in the Greater Cape Town area is also underway.

#### Eurasian lynx *Lynx lynx*

France (Marine Drouilly)

The top human related causes of mortality of the Eurasian lynx in France are vehicle collisions and illegal killings. Strategies to reduce threats to the Eurasian lynx include a national conservation action plan to ensure reduced human-induced mortality, improve the quantity and the quality of lynx habitat, foster coexistence with human activities, promote the lynx and its image amongst local communities, and to develop cooperative scientific studies and monitoring with the neighbouring countries.

#### Bobcat *Lynx rufus*

USA (Laurel Serieys)

Rat poison is one of the main causes of bobcat mortality. Bobcats experience secondary exposure after preying on poisoned rats and other small mammals targeted with the poisons (Serieys et al. 2015, Serieys et al. 2018). Active advocacy against rat poisoning under a slogan "Rat Poison Kills More Than Rats" has helped to create awareness against rodenticide use and its impact on wildlife. This awareness campaign has since precipitated a lawsuit against the State of California with the aim to reduce consumer availability of these ubiquitous poisons.

#### Guiña *Leopardus guigna*

Chile (Constanza Napolitano)

The guiña in Chile is threatened by habitat loss and fragmentation (leading to disruption of connectivity among subpopulations and lower genetic diversity), parasites and diseases transmitted by free-roaming domestic cats and dogs (feline leukaemia and feline immunodeficiency virus (Mora et al. 2015)), retaliatory persecution for poultry depredation and vehicle collisions. Predator-proof chicken coops and flashlights are used to stop poultry attacks by the guiña. To reduce the spread of diseases and parasites between domestic animals (cats and dogs) and the guiña, domestic cats and dogs are vaccinated and dewormed. Anthropologists are measuring the overall impact of these conservation activities, using pre and post-tests, including focus groups with local communities to identify and rank information, and structured questionnaires. Other conservation initiatives include public outreach campaigns involving media coverage and conservation education programmes for school children. A nationwide conservation action plan for the guiña has been developed (Sánchez et al. 2017),

and its implementation of priority actions is underway.

#### Andean cat *Leopardus jacobita*

Argentina, Bolivia, Chile and Peru (Constanza Napolitano)

The Andean cat is facing human related threats ranging from habitat destruction (mining companies desiccating key wetlands in the Andean highlands), kills by domestic dogs, human-small wild cat conflict and hunting for pelts used for ceremonies. The Andean Cat Alliance (AGA, for its initials in Spanish) has been working for the past 20 years in a coordinated way across the species range countries (Argentina, Bolivia, Chile and Peru). Livestock guarding dogs are bred and given to local communities to deter depredation of livestock herds. By giving local communities guardian dogs to protect their herds, local herders may have better perceptions and attitudes towards predators in general, therefore being less inclined to hunt or harm Andean cats. Local herders have frequent conflicts with pumas and foxes killing their livestock, but their retaliation to depredation is not discriminatory of species. Engaging and empowering local communities in crafts as a tool to simultaneously strengthen cultural heritage and to create a connection between the Andean cat and livelihood improvement are being used to discourage the hunting of the Andean cat. Over 70 park guards have been trained for the conservation of the Andean cat. Outreach and dissemination through public radio shows, media and conservation education to school children is raising awareness on the species.

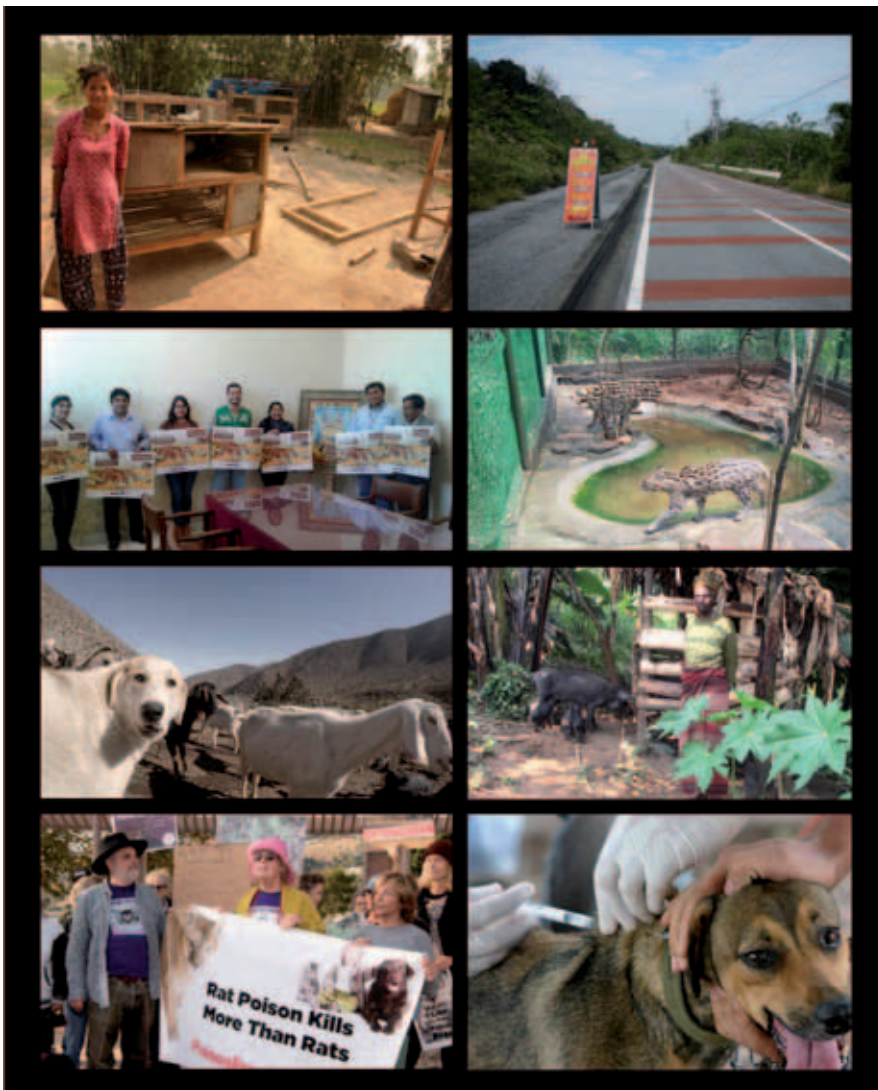
#### Pampas cat *Leopardus colocola*

Peru (Cindy Hurtado and Alvaro García Olaechea)

The pampas cat in Peru is threatened by habitat degradation and loss, human commensals (feral dogs, cats and pigs), opportunistic hunting for pet trade and vehicle collisions. To address these threats, intensive public awareness and sensitization programmes through environmental education and workshops are in place with local authorities, school children and university students. A citizen science initiative on social media to record wildlife vehicle collisions is ongoing to inform strategic installation of road signs on pampas cat presence.

#### Workshops and panel discussions

While directly working with key stakeholders, particularly with local people, has been



**Fig. 3.** Ongoing interventions to reduce threats to small wild cats. From top row left: predator proof chicken coops against poultry loss to small wild cats (Photo Sagar Dahal), road signs against Iriomote leopard cat vehicle collisions in Japan (Photo Nozomi Nakanishi), public awareness initiatives (Photo Peruvian Desert Cat Project), rehabilitation facilities for rescued small wild cats in Sri Lanka (Photo Ashan Thudugala), livestock guarding dogs against Andean cats (Photo Constanza Napolitano), piggery “pig seed banks” to dissuade poaching in Uganda (Photo Embaka-Saving African golden cats), advocacy against poison use for pest control in California (Photo Laurel Serieys) and vaccination of domestic dogs to prevent disease transmission to wild cats in Chile (Photo Constanza Napolitano).

identified as one of the key approaches in reducing threats to small wild cats, baseline ecological surveys using camera trap and animal movement (radio or satellite) data have been important to identify and assess the level of threats. Additionally to the species presentations, there were a number of workshops and panel discussions (SOM T2). Participants were given the opportunity to learn on how to trap and collar small wild cats, analyse animal movement data and collect biological materials from small wild cats. Also the newly developed data Science software, “PantheraIDS”, a software offering advanced machine learning capabilities

to automatically identify species from camera traps, easy-to-use analytics and mapping tools, cloud-based database infrastructure as well as high level security, was presented. Representatives from conservation funding organisations shared their insight on fundraising for small wild cat conservation and also pledged increased future funding for small wild cats.

### Concluding remarks

Are we doing enough to protect the world’s small wild cats? Perhaps not! It was clear from the ten species represented at the summit that small wild cat species are subject

to at least four major threats. These include; habitat loss and degradation, human-small wild cat conflict and associated retaliatory killing (due to livestock, poultry or fish loss), hunting and poaching, and vehicle collisions. Other threats such as domestic animals, inbreeding, prey declines, vermin control, and diseases contracted from domestic animals were less often reported, likely because these issues remain less researched. As human populations increase, land-use change reducing native natural habitat and urban centres expand, human-small wild cat conflict and vehicle collisions will increase. Ongoing conservation (in particular threat reduction) initiatives suggest that lasting changes will likely require multifaceted and pluralistic approaches. Such approaches should improve laws and strengthen enforcement of existing protective legislation, incorporate the results of ecological and social science research, promote self-sustaining conservation strategies and work towards making small wild cats valued locally and globally.

There is a broad disparity in the laws surrounding the management and protection of small wild cats. For example, caracals in South Africa are considered vermin and can be legally killed to mitigate human-caracal conflict under the South African Wildlife Act (Avenant et al. 2016), while for other small wild cats, protection laws are in place but rarely enforced. Although protected, fishing cats in Bangladesh and Cambodia are regularly hunted and subject to retaliatory killing as implementation of the law is weak. This contrasts strongly with the situation in India, where the fishing cat is granted the highest legal protection, and conservation efforts over the last decade have resulted in improved law enforcement and punishment of perpetrators. In neighbouring Nepal, laws to protect this globally threatened felid are entirely absent, however there are current advocacy efforts to list the fishing cat as a legally protected species. Regardless of legal protection, there is scope to improve the tolerance of local communities towards small wild cats and reduce human small wild cat conflict across the board. Innovative approaches, like creating community owned and monitored livestock banks as a way to replenish local loss of neighbours’ livestock or poultry to small wild cats or as alternatives to bushmeat poaching (as demonstrated for fishing cats in India and African golden cat in Uganda) need to be explored further and applied across applicable species ranges.

Although the summit comprised a limited number of participants, representing only ten of 33 small wild cat species, we aim for greater outreach and engagement with all individuals and organisations who work to conserve small wild cats. Funding (for participant travel and accommodation) was a key challenge in organising this meeting and explains the limited attendance and representation of other small wild cat species. The next (third) international Small Wild Cat Conservation Summit in 2022 is envisaged to have a greater number of participants and more species represented, enabling a larger and more dynamic global conversation about small wild cat conservation.

## References

- Appel A., Mukherjee S. & Cheyne M. S. 2018. First International Small Wild Cat Conservation Summit. xx pp.
- Avenant N., Drouilly M., Power R., Thorn M., Martins Q., Neils A., . . . Do Linh San E. 2016. A conservation assessment of *Caracal caracal*. In The Red List of Mammals of South Africa, Swaziland and Lesotho. Child M., Roxburgh L., Do Linh San E., Raimondo D. & Davies-Mooster H. (Eds). EWT, South Africa, 13 pp.
- Bennett M., Lagos N., Napolitano C. & Villalobos R. 2016. Plan Nacional de Conservación del Gato Andino (*Leopardus jacobita*) en Chile. CONAF, Iquique. 111 pp.
- Brodie J. F. 2009. Is research effort allocated efficiently for conservation? Felidae as a global case study. *Biodiversity and Conservation* 18, 2927–2939.
- Chowdhury U. S., Chowdhury R. A., Ahmed S. & Muzaffar B. S. 2015. Human-fishing cat conflicts and conservation needs of fishing cats in Bangladesh. *Cat News* 62, 4–7.
- Crooks K. R. & Soule M. E. 1999. Mesopredator release and avifaunal extinctions in a fragmented system. *Nature* 400, 563–566.
- De Oliveira T., Marcos A.T., Leandro Silveira K.C. B., Mazim F. D., Lucherini M., ... & Sunquist M. 2010. Ocelot ecology and its effect on the small-felid guild in the lowland Neotropics. In *Biology and conservation of wild felids*. Macdonald D. W. & Loveridge A. J. (Eds). Oxford University Press, Oxford, United Kingdom, pp. 559–580.
- Drouilly M., Natrass N. & O'Riain M. J. 2018. Dietary niche relationships among predators on farmland and a protected area. *Journal of Wildlife Management* 82, 507–518.
- Kantimahanti M., Thyadi A., Chintalapudi A., Vivek R. H. & Yerramsetti P. 2019. Camera trap record of inland fishing cat from east coastal plains of South India. *Cat News* 70, 16–17.
- Kitchener A., Breitenmoser-Würsten C., Eizirik E., Gentry A., Werdelin L., Wilting A., ... & Tobe S. 2017. A revised taxonomy of the Felidae. The final report of the Cat Classification Task Force of the IUCN Cat Specialist Group. *Cat News Special Issue* 11, 80 pp.
- Mills D., Isoke S., Plumtre A., Slotow R. & Hunter L. 2012. Systematic survey efforts of the African golden cat – Part 2. Results from Uganda. *Cat News* 57, 16–19.
- Mohamed A., Sollmann R., Bernard H., Ambu L. N., Lagan P., . . . Wilting A. 2013. Density and habitat use of the leopard cat (*Prionailurus bengalensis*) in three commercial forest reserves in Sabah, Malaysian Borneo. *Journal of Mammalogy* 94, 82–89.
- Moqanaki E. M., Nasratullah J., Malkhasyan A., Askerov E., Farhadinia S. M., Muhammad K., ... & Ostrowski S. 2019. Distribution and status of the Pallas's cat in the south-west part of its range. *Cat News Special Issue* 13, 24–30.
- Mora M., Napolitano C., Ortega R., Poulin E. & Pizarro-Lucero J. 2015. Feline Immunodeficiency Virus and Feline Leukemia Virus infection in free-ranging guignas (*Leopardus guigna*) and sympatric domestic cats in human perturbed landscapes on Chiloe Island, Chile. *Journal of Wildlife Diseases* 51, 199–208.
- Mugerwa B., Sheil D., Ssekiranda P., van Heist M. & Ezuma P. 2013. A camera trap assessment of terrestrial vertebrates in Bwindi Impenetrable National Park, Uganda. *African Journal of Ecology* 51, 21–31.
- Pallas's Cat Global Action Planning Group. 2019. Conservation Strategy for *Otocolobus manul*. *Cat News Special Issue* 13, 55–62.
- Sánchez P., Gálvez N., Vidal F., Napolitano C., Furniel D. & Matamala R. 2017. Plan Nacional de Conservación de la Guiña (*Leopardus guigna*) en Chile. CONAF, 120 pp. Temuco.
- Serieys L. E., Armenta T. C., Moriarty J. G., Boydston E. E., Lyren L. M., Poppenga R. H., ... & Riley S. P. 2015. Anticoagulant rodenticides in urban bobcats: exposure, risk factors and potential effects based on a 16-year study. *Ecotoxicology* 24, 844–862.
- Serieys L. E. K., Lea A. J., Epeldegui M., Armenta T. C., Moriarty J., VandeWoude S., ... & Uittenbogaart C. H. 2018. Urbanization and anticoagulant poisons promote immune dysfunction in bobcats. *Proceedings of the Royal Society B: Biological Sciences* 285, 1871.
- Serieys L., Bishop J., Okes N., Broadfield J., Winterton D., Poppenga R., ... & O'Riain M. 2019. Widespread anticoagulant poison exposure in predators in a rapidly growing South African city. *Science of the Total Environment* 666, 581–590.
- Sheil D., Mugerwa B. & Feagraus E. H. 2013. African golden cats, citizen science, and serendipity: tapping the camera trap revolution. *South African Journal of Wildlife Research* 43, 74–78.
- Silmi M., Anggara M. & Dahlen B. 2013. Using leopard cats (*Prionailurus bengalensis*) as biological pest control of rats in a palm oil plantation. *Journal of Indonesian Natural History*, 1, 31–36.

Supporting Online Material SOM Tables T1 and T2 are available at [www.catsg.org](http://www.catsg.org)

<sup>1</sup> Leibniz Institute for Zoo and Wildlife Research, Alfred-Kowalke-Straße 17, 10315 Berlin, Germany

\* <[bmugerwa@gmail.com](mailto:bmugerwa@gmail.com)>

<sup>2</sup> Institute of Tropical Forest Conservation, P.O. Box 44 Kabale, Uganda

<sup>3</sup> Centre for Conservation of Natural Resources, The University of Trans-Disciplinary Health Sciences and Technology, India

<sup>4</sup> Small Wild Cat Conservation Foundation, 390 Rincon Rd Corrales, NM 87048-7619, USA

<sup>5</sup> Small Cat Advocacy and Research, 381/14 Spring Hills Estate, Bowalawatta, 20024, Kandy, Sri Lanka

<sup>6</sup> Departamento de Ciencias Biológicas y Biodiversidad, Universidad de Los Lagos, Osorno, Chile

<sup>7</sup> Instituto de Ecología y Biodiversidad, Santiago, Chile

<sup>8</sup> Global Wildlife Conservation, Texas, USA