Special thanks to our Winter CrocFest 2019 host - St. Augustine Alligator Farm Zoological Park - which opened its front admissions gate for CrocFest ticket sales. Guests enjoyed touring the grounds of The Alligator Farm and were treated to encounters with some of the park's most endearing inhabitants. As a special treat, there was a public feeding of Maximo, an impressive, nearly 5 m male Saltwater crocodile (Fig. 3). Attending CrocFest were "Alligator Frank Robb" and the alligator named "Chance the Snapper," both of whom have become celebrities over the last six months! Robb signed copies of a new coloring book that recounts the story of the alligator's unfortunate release into a Chicago lake, his capture by Robb and happy relocation to St. Augustine Alligator Farm.

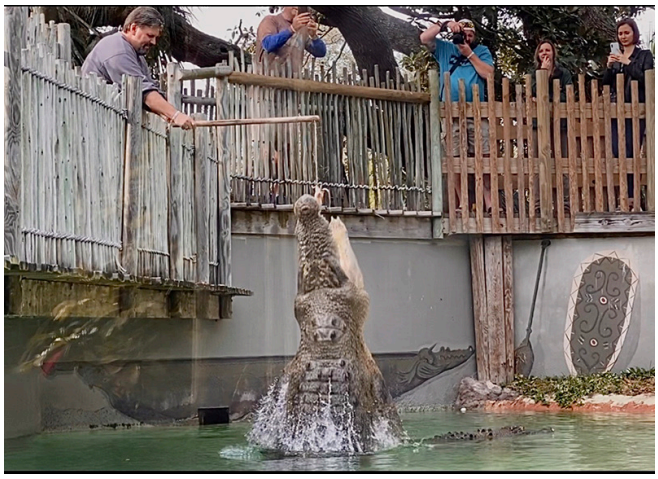

Figure 3. "Maximo" delights hundreds of CrocFest attendees as he explodes out of the water during a feeding demonstration.

Figure 4. CrocFest crowd assembles in anticipation of the live auction.

Thanks to the generosity and commitment of the private sector, zoos, academia, and corporate sponsors, over the past nine years, CrocFest has raised over $US463,000 for crocodilians in peril. ALL donations go directly to the crocodile projects, with fundraiser expenses covered by sponsors and event organizers.

The CrocFest Team: Colette Adams, Curt Harbsmeier and Flavio Morrissiey.

East and Southeast Asia

Philippines

NEW POPULATION RECORD OF PHILIPPINE CROCODILE (*CROCODYLUS MINDORENSIS*, SCHMIDT, 1935) IN SOUTHERN PHILIPPINES. On 27 November 2018, the Crocodylus Porosus Philippines, Inc. (CPPI) Research and Conservation Team traveled to the Municipality of Malabang, Province of Lanao del Sur, Mindanao (Fig. 1) to investigate the reported presence of crocodiles in the area. They immediately encountered two sub-adults and one juvenile crocodile in private collections. Morphological investigation showed that the three individuals were Philippine crocodiles (*Crocodylus mindorensis*). An interview with the incidental captor of one of the sub-adults revealed that it was accidentally caught in the Matling River during a fishing trip. Due to uncertainty on the presence of wild population and its close proximal boundaries, this finding was deemed inconclusive enough to establish a new population record at the time of visit.

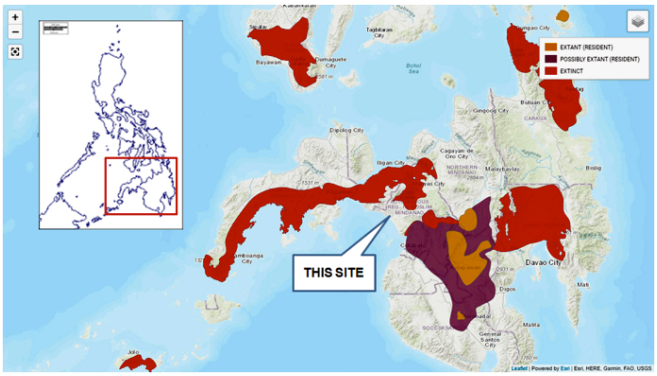

Figure 1. Location of new *Crocodylus mindorensis* population record in the Municipality of Malabang, Lanao del Sur. Based on map in Ross *et al*. (2016).

A year later, on 28 November 2019, Philippine National Police Officer Patrolman Saino Benito Pagayawan (former Forest Ranger of the DENR-Autonomous Region for Muslim Mindanao and a resident of the Municipality of Malabang, Lanao del Sur) posted a photograph of a juvenile Philippine crocodile on CPPI's official Facebook page "Philippine Croc". With this information in hand, CPPI mobilized its team to renew investigative efforts on-site to examine the reported juvenile crocodile further.

On 10 December 2019, the team was able to examine the reported by-catch juvenile Philippine crocodile (Fig. 2) which was kept in a small, improvised earthen enclosure. Morphological investigation confirmed that the juvenile crocodile was a *C. mindorensis* (103 cm TL). Mr. Gani Macaraya (38 y), Mr. Mohaymi Macaraya (32 y) and Mr. Talha Doronia (31 y) collectively revealed that the individual was accidentally captured during their fishing trip in Maladi River, Barangay Montay, Municipality of Malabang, Lanao del Sur, around 1300 h on 17 November 2019. Mr. Macaraya recalled that he also tied a rope to the neck area of an adult

Figure 2. By-catch juvenile *Crocodylus mindorensis* from the Maladi River, Malabang, Lanao del Norte, Philippines, retrieved by PNP Officer Patrolman Saino Benito Pagayawan, December 2019.

crocodile resting underwater during one of his spear fishing trips last October 2019, but that crocodile escaped. He also reported having seen an adult crocodile basking in the area prior to this occasion.

With the assistance of the Philippine Marine Battalion Landing Team and community guides, CPPI conducted an on-foot night spotlighting survey in the Maladi River (7°37'47.94" N; 124°3'22.90" E, WGS84), which yielded no crocodile sightings. However, a concerned resident reported the accidental capture on 8 December 2019 of three young crocodiles of apparently varying ages. Upon further field investigation, the nesting site was found to be in a densely vegetated, waterlogged area with irrigation drainages serving as narrow waterways (ca. 300 m) from the Miundas River (7°38'8.67"N; 124° 2'45.12"E WGS84) in the same municipality. Close morphological examination of the one of the three young individuals confirmed it to be about a 2-week-old hatchling *C. mindorensis* (33 cm TL). Tissue samples from tail scutes clipping were obtained and will be used for DNA sequencing to determine its relationship from previously sampled individuals in the Provinces of Lanao.

The hatchling was released by the community back to the wild after examination. On 11 December 2019, a daytime survey along the capture site (7°37'28.95" N; 124° 2'50.46" E WGS84) of the juvenile in the Maladi River revealed several fresh juvenile crocodile tracks in sand along the riverbanks.

The elusive nature of the Philippine crocodile causes it to be considered as the rarest species of crocodile in the world. Historically, this species was distributed throughout the country with records in the Laguna de Bay, Camarines Province, Oriental Mindoro, Busuanga Island in Palawan Province, Samar, Negros Oriental, Zamboanga del Sur, Ligawasan Marsh, North Cotabato, Davao del Norte, and Surigao del Norte (Ross *et al*. 2016). The IUCN Red List estimated the extant population at 92-137 individuals, that are patchily distributed in the Province of Abra (Manalo 2008), the foothills of the Northern Sierra Madre mountain range in Isabela (van Weerd *et al*. 2006) and Dalupiri Island (Oliveros *et al*. 2005) in northern Luzon. Extant populations were also present in Ligawasan Marsh (Pomares *et al*. 2008), the central spine of Bukidnon (Pontillas 2000) and the highlands of Lake Sebu in South Cotabato (Manalo *et al*. 2018) in Mindanao.

In 2013, 36 captive-bred juveniles were introduced in Paghungawan Marsh, Siargao Island Protected Landscapes and Seascapes off the north coast of Mindanao (Mercado *et al*. 2013). Then in 2017, there was a supplementary release of 8 yearlings and 21 juveniles in the marsh as requested by the local government unit (Manolis 2017). There was no known previous record of *C. mindorensis* in Moro Gulf, Lanao del Sur, western Mindanao, Philippines (see Fig. 1).

The records of *C. mindorensis* hatchlings and juveniles in this field survey undoubtedly confirm the presence of a healthy, apparently viable population thriving in the major river systems (Miundas, Maladi and Matling) in Lanao del Sur. This population, hidden to science for almost four decades, was in fact well known to the local community. These findings signify that Mindanao remains the stronghold population of this species. We perceive that its existence will continue into the next decades through protection afforded by the cultural practices of the indigenous Muslim communities nearby.

Conservation of *C. mindorensis* heavily relies on the commitment to explore new habitats that may potentially harbor extant populations. It is an additional benefit to find them in an environment where the local culture naturally provides for its protection. CPPI is very much willing to facilitate future research and conservation partnerships among government institutions, non-government organizations, international institutions, funding agencies, and community leaders whenever and wherever warranted.

Acknowledgements

We would like to express our thanks to Patrolman Saino Benito Pagayawan for providing information on this new population; likewise to Brgy. Montay Chairman Anwar Sabat S. Pagayawan, Mr. Hasim Macaraya, for their hospitality; to Mr.Baulo Baharodin of the Ministry of Environment Natural Resources and Energy - Bangasamoro Autonomous Region for Muslim Mindanao, for technical support in permitting

Figure 3. *Crocodylus mindorensis* hatchling recovered from tributary of the Miundas River, Malabang, Lanao del Sur, Philippines, December 2019.

process; to the logistic support of the 5th Philippine Marine Battalion Landing Team; and, finally, to Crocodile Conservation Institute for its generous support.

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South Asia and Iran

India

MARSH CROCODILES OF KARKATGARH-KAIMUR (BIHAR, INDIA). Kaimur Wildlife Sanctuary (KWLS), ~1500 km^2 in area, largely consists of Vindhyan sandstones in a scarp and plateau formation with dry deciduous and open scrub vegetation. The Karamnasa is the major perennial river in study area, draining a large part of the plateau in a series of waterfalls and cascades to meet the Ganga in the north. Karkatgarh lies in the northwestern part of KWLS, and the Karamnasa River forms the interstate boundary between the states of Bihar and Uttar Pradesh at this location.

In February-March 2019, 36 km of river/stream habitat (including Karamnasa, Lorsi and Phulbaria-Thupata-Okhargarha-Gurwat) were surveyed over a 15-day period. The habitat here is characterised by riparian vegetation and a rocky bed. Late-winter, low-flow conditions were advantageous because crocodiles were confined to fewer locations and expected to bask for longer durations. Counts were based on daylight foot and stationary observations.

A total of 80 crocodiles were recorded from 45 locations; 36 adults (≥200 cm TL), 9 sub-adults (150-199 cm TL), 24 juveniles (60-149 cm TL), 5 yearlings (<60 cm TL) and 6 of indeterminate size. Data on crocodile signs, including spoor (tail, foot, belly scales and slide impressions), scat (faecal pellets) and burrows were recorded to help determine presence, but not used in the reported figure to avoid double counts. No attempt was made to estimate the probability of detection or measures of survey bias or error.

Major anthropogenic influences observed during the survey include hydrological modifications (dams and unseasonal flows), gill-net fishing, riverbed farming, and tourism. A conservation and monitoring plan has been prepared for the Department of Environment, Forest and Climate Change, Government of Bihar, focusing on: (a) staff training and capacity building; (b) protection and patrolling; (c) crocodile monitoring; (d) monitoring river flow; and, (e) communication and outreach.

The full report (Nair and Varma 2019) can be shared conditional on approval from the concerned department.

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