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SHORT COMMUNICATION

THE FIRST RECORD OF A WILD HYPOPIGMENTED ORIENTAL SMALL-CLAWED OTTER (*AONYX CINEREUS*)

Maximilian L. Allen[1], Marsya C. Sibarani[2], Laji Utoyo[2],

[1] Illinois Natural History Survey, 1816 S. Oak Street, Champaign, IL 61820, U.S.A.

[2] Wildlife Conservation Society-Indonesia Program, Jalan Tampomas Ujung No. 35, Bogor, West Java 16151, Indonesia

Corresponding Author: Maximilian L. Allen, *maxallen@illinois.edu*

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Hypopigmentation, a condition affecting the pigmentation of cells in animals, occurs throughout the animal kingdom, from reptiles to birds and mammals. The most common forms of hypopigmentation are albinism (a complete absence of melanin in hair, skin, and eyes; Da Costa Toledo et al. 2014) and leucism (a total or partial loss of multiple types of pigmentation that results in either white, pale, or patchy coloration of an animal's skin, hair, feathers, or scales; Ellegren 1997, Edelaar et al. 2011). Hypopigmentation can also be acquired and change progressively over an individual's life (Muller 2017). Hypopigmentation appears sometimes to be more common in certain geographic locations (Forrest and Naveen 2000, Edelaar et al. 2011), and the aberrant coloration caused by hypopigmentation often has negative consequences for an individual's fitness (Sage 1962, Ellegren 1997). There are, however, instances in which hypopigmentation appears to be locally advantageous (Edelaar et al. 2011), or have other potential evolutionary advantages (e.g., Reed & Freeman 1991, Owen & Shimmings 1992, Sobroza et al. 2016). Here we report the first record of hypopigmentation of a wild oriental small-clawed otter (*Aonyx cinereus*).

Bukit Barisan Selatan National Park (BBSNP) contains a high diversity of wildlife, and is the third largest protected area (3,560 km^2) on Sumatra, spanning two provinces: Lampung and Bengkulu (O'Brien & Kinnaird, 1996). The park was established in 1982, and contains more lowland forest than any other protected area in Sumatra (O'Brien & Kinnaird, 1996). Topography ranges from coastal plains and lowland rainforest in the southern peninsula, to mountains in the middle to northern part of the park. It is covered by montane forest, lowland tropical forest, coastal forest, and mangrove forest. The rocky western side is wet with approximately 3000–4000 mm of rainfall, whereas the east is drier with 2500–3000 mm of rainfall. Temperatures generally range between 20°and 28 °C.

We set camera traps as a part of the terrestrial vertebrate monitoring programme of the Tropical Ecology and Assessment Monitoring (TEAM) Network for BBSNP. We set two arrays of 30 camera traps which were placed near game trails and/or places used regularly by wildlife. We placed traps at a density of one sampling site per 2 km2. We attempted to set each camera trap each year from 2010-2017, and we deployed the cameras sequentially rather than simultaneously within the same dry season (across April and May) to complete at least 30 days of sampling for each point. We defined a photo event as any series of photos triggered by a human or wildlife species. To avoid pseudo-replication, we considered consecutive photo captures of the same species within 30 minutes to be the same event (Wang et al. 2015, Rich *et al.* 2017).

We obtained a total of 45,444 photos across 10,014 trap nights, including a total of 136 carnivore events. On April 20, 2015 at 13:28:56 we documented a group of oriental small-clawed otters at our CT-BBS-1-01 camera site. This is the only event of oriental small-clawed otters we documented across the study. The hypopigmented individual was grooming, while three other otters travelled past (Figure 1). The individual exhibited markedly lighter fur than other otters in the group, but we were unable to determine from the photographs if it was albinism, leucism, or another form of hypopigmentation. This is the second species of otter in which hypopigmentation has now been reported in the wild (see Da Costa Toledo et al. 2014, Arriaga-Flo-

res et al. 2016). Two hypopigmented oriental small-clawed otter were also documented at the Blue Planet Aquarium in England (Daily Mail Reporter 2010).

Considering that this is the only observation of oriental small-clawed otters in our sample, and our only observation of a hypopigmented individual, it is difficult to draw any conclusions about the frequency of hypopigmentation in the species or the area. Where hypopigmented individuals are prevalent, they sometimes have evolutionary advantages. For example, a population of southern caraca-

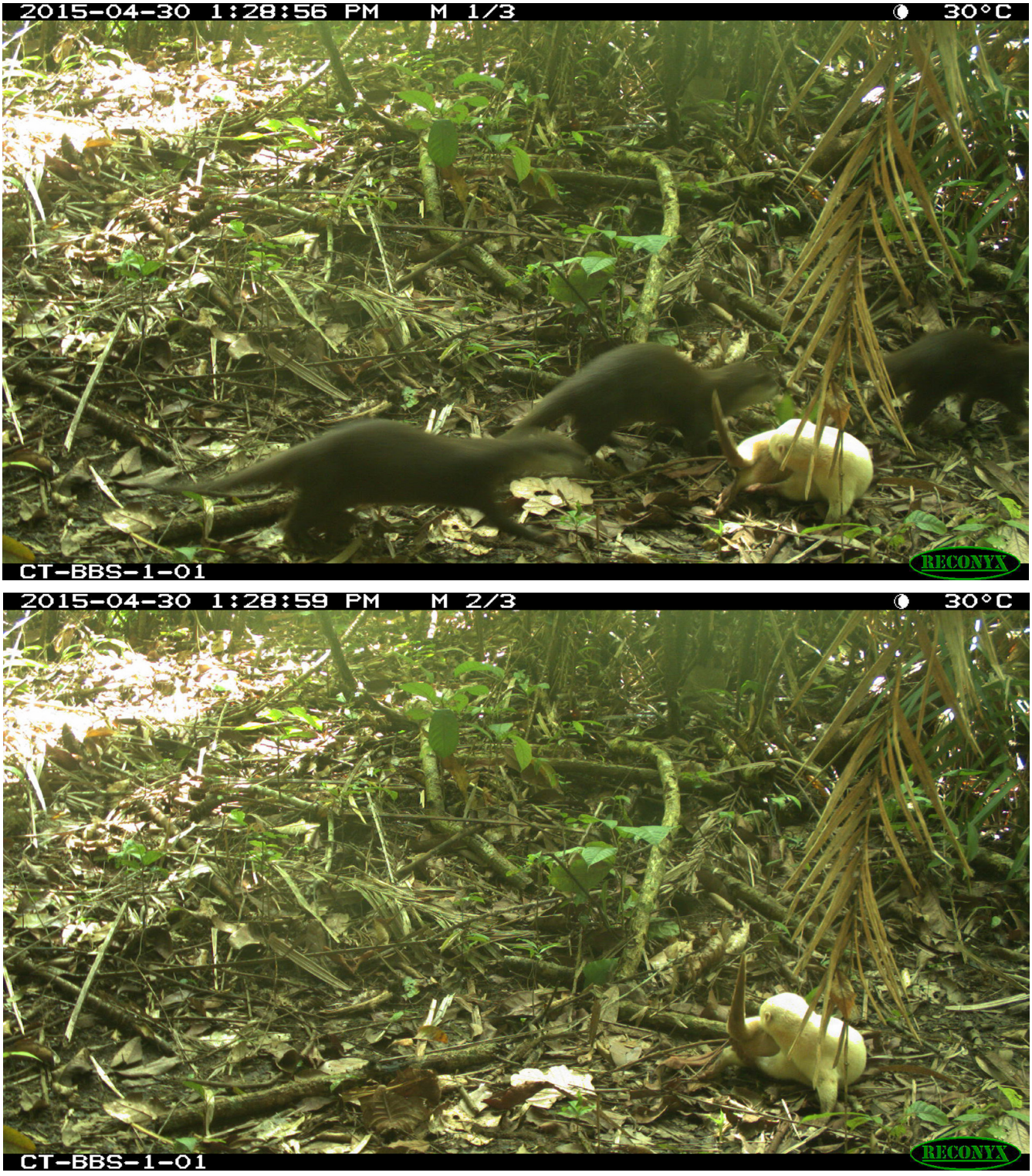

Figure 1. A group of Oriental small-clawed otters (*Aonyx cinereus*), including a hypopigmented individual.

ras (*Caracara plancus*) with many leucistic individuals were found close to predominantly white seabird colonies in a unique geological area in South America (Edelaar *et al.* 2011). It is unclear whether hypopigmented otters would have any advantage or disadvantage in this population, although one could plausibly hypothesize a benefit to hypopigmentation in the context of hunting.

The different types of hypopigmentation are sometimes confused (e.g., Ayala-Perez *et al*. 2013), and this confusion, and the many different terms available, may affect frequency of reports in the literature. Motion-triggered cameras are increasing the ability to document new behaviours (e.g., Allen *et al.* 2016), and rare traits like hypopigmentation. Motion-triggered cameras are likely to lead to documentation of hypopigmentation of other species in the future, and reports of these occurrences have many advantages. The main drawback is the limited potential for determining the actual form of hypopigmentation from photographs.

Oriental small-clawed otters are widespread from India through southern Asia (Hussain *et al.* 2011), and are the smallest otter species in the world. Oriental small-clawed otters are considered vulnerable by the IUCN due to habitat degradation (Hussain *et al.* 2011). They are currently under-represented in the literature, which may partly be due to the difficulty in documenting them. For example, during our study across over 10,000 trap nights we only documented this single event of oriental small-clawed otters. We encourage more research on this species.

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