

## SHORT NOTE

### A REVIEW OF HISTORICAL HABITAT AND THREATS OF SMALL-CLAWED OTTER ON JAVA

Erik MEIJAARD

*People and Nature Consulting International, Jakarta, Indonesia*

*Email: [emeijaard@gmail.com](mailto:emeijaard@gmail.com)*



(Received 24<sup>th</sup> November 2013, accepted 15<sup>th</sup> March 2014)

**Abstract:** A review of some new sources of historic information confirm that the Oriental Small-clawed Otter *Aonyx cinerea* uses a range of non-forest habitats on the Indonesian island of Java. Persecution for its habits to feed in fish ponds is a major threat to this species, and this should be considered when developing conservation strategies for reversing its declines.

#### INTRODUCTION

Meijaard (2010a,b) reported on several records of Oriental Small-clawed Otter *Aonyx cinerea* in an urban environment on Java, Indonesia. This includes his own sightings of these otters in a housing complex in southern Jakarta, where the species used the local drainage system for feeding, and where animals were frequently seen at night crossing roads from one drain to another (Meijaard, 2010b). Subsequent to this publication, another Jakarta resident observed relatively large numbers of otters (groups of up to 16 animals) for some time near his home in south Jakarta, not far from the area where Meijaard had initially sighted the animals (Meijaard, 2010a). These observations raise the question as what constitutes the range habitats typical of the species on Java, and to what extent is it affected by habitat loss or by other factors, such as hunting. In Jakarta, West Java, the species apparently depends on a diet of invertebrates (mostly crustaceans) which it obtains in a series of interconnected drains and small canals and in a larger river without much riverine vegetation. This is not unlike the species' natural habitat in West Java as described on the IUCN Red List (Bartels, 1937; Hussain and de Silva, 2008), which includes wetland systems having pools and stagnant water, including shallow stretches, with depth less than 1 m, in freshwater swamps, meandering rivers, mangroves and tidal pools. No specific mention is, however, made about the species' occurrence in urban environments, although elsewhere the species is indicated to occur in a range of anthropomorphic habitats, including rice fields, fishponds, crab-ponds, fishery areas along the coast, in creeks along tea plantations, in irrigation channels related to the aforementioned habitats, as well as in the middle of a town (Melisch et al., 1996). If the species survives in open areas, such as rice fields to what extent is it then threatened by the

loss of forested swamps and mangroves, as suggested in the IUCN Red List (Hussain and de Silva 2008)? This is an important consideration, because understanding what constitutes the main threat to a species is crucial in developing effective conservation strategies. Here I add to the discussion by reviewing the Netherlands-Indies' historical literature on *A. cinerea* in Java to see how commonly the species occurred in non-forest environments at a time when forest cover on Java was much more extensive (Whitten et al., 1996), and what other threats were reported. Because most of these articles were written in Dutch they have remained outside the published scientific literature on Indonesian otters.



Fig 1: *Aonyx cinerea* in Halimun NP, Java - photo Age Kridalaksana

## FINDINGS FROM THE HISTORICAL LITERATURE

Between 1815 and 1927, *Aonyx cinerea* was collected from a range of urban and rural localities, including Batavia [= Jakarta], Batutulis (near Bogor), and Buitenzorg [= Bogor] (van Strien, 2001), although from these locality names only it cannot be worked out in which environments they were collected. Other historical evidence, however, indicates that the species made extensive use of agricultural and urban habitats. Van Blommestein (1886) mentions that in Batavia (now Jakarta), the 'otter' caused major losses in the city's many fish ponds. Attempts to eradicate the otter had remained ineffective, mostly because it was very difficult to hunt because of its elusive behavior. It is unclear though whether the author refers to *A. cinerea*, to Smooth-coated Otter *Lutrogale perspicillata*, or to a mix of both; *L. perspicillata* is the only other otter known from Java (Hussain et al., 2008), although generally it is found in the much bigger rivers (Bartels, 1934). Specifically about *A. cinerea*, Bartels (1934) writes that the species appears to move rapidly between habitat patches, using certain areas with fish ponds or small rivers for several days and then moving on to other areas. This was also noted in South Malang, East Java, where the species would be absent from certain rice field areas, but then reappear in large numbers. In such

habitats, *A. cinerea* primarily fed on crabs and fish and did not hesitate to come close to built-up areas if fish could be obtained (Bartels, 1934). In the 1920s, *A. cinerea* was still thought to be common around the town of Buitenzorg (= Bogor), where the species could be observed at night with relative ease on the banks of rivers that flow through this town (Leefmans, 1920). The species commonly nested in disused buildings, hollow trees on the river bank, or holes in these river banks, and the species' young were often flushed out and caught when the river banks flooded (Leefmans, 1920).

Eradication of otters was considered to be difficult. Fish pond owners primarily used sharpened bamboo sticks inserted in the bottom of the ponds, not so much to kill otters, but rather to provide fish with places to hide (Bartels, 1934). Shooting them was thought to be very difficult (Bartels, 1934). In Malang (East Java), where the species is no longer known to occur (Melisch et al., 1996), other methods were used to control otters. The cultivation of carps in ponds was badly affected by otters and birds of prey, and the Freshwater Fish Department had developed effective traps that managed to reduce otter population significantly (Anonymous, 1938 a,b). Elsewhere on Java such trapping methods were also considered effective for controlling otters (Anonymous 1925).

## DISCUSSION

The historical information presented here, as well as in the literature review by Melisch et al. (1996), indicates that in the 19<sup>th</sup> and early 20<sup>th</sup> century, *Aonyx cinerea* was relatively commonly encountered in agricultural and urban or semi-urban environments on the island of Java. The species was considered a pest to commercial fisheries and both governmental authorities and local people did their best to eradicate it. This might explain why the species still occurs in seemingly unsuitable environments, such as the heavily polluted waterways of Jakarta, an urban conglomeration with some 20 million people and some of the highest human population densities in the world. If indeed human persecution, rather than habitat loss is among the more important threats to *A. cinerea*, a city like Jakarta where few people hunt or depend on fishing or fish keeping for their livelihoods might provide one of the few relatively safe refuges for the species. This seems counterintuitive, but it is important to realize how intensively hunted and collected wildlife in Java's forest and agricultural landscapes is. Once very common species that occurred in all natural and human-made environments, such as the Common Gecko *Gekko gekko*, have been collected to near extinction throughout the island because of local demand or demand from the Asian mainland for medicinal use (Meijaard and Achdiawan, 2011). Such high killing and trapping rates would likely also affect *A. cinerea*, especially because it is not protected in Indonesia (Noerdjito and Maryanto 2007).

I recommend renewed efforts that focus on describing remaining populations of *A. cinerea* on Java and how these are most threatened. A review of all reported records of the species in field survey reports and university theses would be a first useful step. On the basis of resulting presence records, well-designed interview surveys (Mohd-Azlan et al., in press) might be the most useful techniques to rapidly obtain information about current population status and threat on the island, and recent trends in numbers. I call on the Otter Specialist Group to help facilitate such surveys.

## REFERENCES

**Anonymous. (1925).** Over Visscherij. Het nieuws van den dag voor Nederlandsch-Indië 30:31 July 1925, page 1920.

- Anonymous. (1938) a.** Een otter in 't bolwerk [An otter in its stronghold]. Soerabaijasch handelsblad 86:27 October 1938, page 1912.
- Anonymous. (1938) b.** Succesvolle karperooft [Successful carp harvest]. De Indische courant 18 14 October 1938, Vierde Blad, page 1933.
- Bartels, E. (1934).** Eenige gegevens omtrent den Kleinen Javaanschen Vischotter [some information about the small Javan fish otter]. *De Tropische Natuur* **23**: 41-44.
- Bartels, M. (1937).** Zur Kenntnis der Verbreitung und der Lebensweise Javanischer Säugetiere. *Treubia* **16**: 149-164.
- Hussain, S.A., de Silva, P.K.. (2008).** *Aonyx cinerea*. IUCN Red List of Threatened Species. Version 2013.2.  
[Available from <http://www.iucnredlist.org> Downloaded on 23 November 2013]
- Hussain, S.A., de Silva, P.K., Mostafa Feeroz, M. (2008).** *Lutrogale perspicillata*. IUCN Red List of Threatened Species. Version 2013.2.  
[Available from <http://www.iucnredlist.org> Downloaded on 24 November 2013]
- Leefmans, S. (1920).** Iets over den Sero (\*). (Otter) [something about the Sero]. *De Tropische Natuur* **9**:17-19.
- Meijaard, E. (2010) a.** More on otters in Jakarta. Mongabay December 20, 2010.  
[Available from <http://blog.mongabay.com/2010/12/20/more-on-otters-in-jakarta/> ]
- Meijaard, E. (2010) b.** Urban ecology in Jakarta. Mongabay December 8, 2010.  
[Available from <http://blog.mongabay.com/2010/12/08/urban-ecology-in-jakarta/>]
- Meijaard, E., and R. Achdiawan. (2011).** Where have all the geckos gone? *The Jakarta Post* 28 May, 2011.  
[Available from <http://www.thejakartaglobe.com/archive/where-have-all-the-geckos-gone/443645/>]
- Melisch, R., L. Kusumawardhani, P. B. Asmoro, and I. R. Lubis. (1996).** The otters of west Java - a survey of their distribution and habitat use and a strategy towards a species conservation programme. PHPA/Wetlands International Indonesia Programme, Bogor, Indonesia.
- Mohd-Azlan, J., Duckworth, J.W., Belant, J.L., Meijaard, E. (2013).** Using secondary information to study carnivores in Borneo. *Raffles Bulletin of Zoology*, Supplement no. **28**: 1-8.
- Noerdjito, M., and I. Maryanto, editors. (2007).** Jenis-jenis hayati yang dilindungi perundang-undangan Indonesia. Balitbang Zoologi [Types of Biological Protection Legislation in Indonesia.] Museum Zoologicum Bogoriense, Puslitbang - LIPI, and The Nature Conservancy, Cibinong, Indonesia.
- van Blommestein, W. (1886).** De Vischvangst [The fish catch]. Bataviaasch Nieuwsblad 24 February 1886:5.
- van Strien, N. J. (2001).** Indoaustralian mammals. A taxonomic and faunistic reference and atlas. ETI, Amsterdam, The Netherlands.
- Whitten, T., R. E. Soeriatmadja, and S. A. Afiff (1996).** The ecology of Java and Bali. Periplus Editions, Singapore.

## RÉSUMÉ

### UN EXAMEN DE L'HABITAT HISTORIQUE ET MENACES À LOUTRES CENDRÉES SUR JAVA

Une revue de nouvelles sources de données historiques confirme le fait que la loutre naine cendrée (*Aonyx cinerea*) utilise certains habitats non forestiers de l'île Indonésienne de Java. La destruction de cette espèce est liée à sa prédation sur les poissons d'étang et représente la menace principale. Les stratégies de conservation de cette espèce pour enrayer son déclin doivent prendre en compte cet aspect.

## **RESUMEN**

### **REVISIÓN DEL HÁBITAT HISTÓRICO Y LAS AMENAZAS DE LA NUTRIA ASIÁTICA DE UÑAS PEQUEÑAS, EN JAVA**

La revisión de algunas nuevas fuentes de información histórica confirma que la nutria asiática de uñas pequeñas *Aonyx cinerea* utiliza un espectro de hábitats no-forestados en la isla Indonesia de Java. La persecución debido a su hábito de alimentarse en pisciculturas es una gran amenaza para esta especie, y ésto debería ser tenido en cuenta al desarrollar estrategias de conservación para revertir su declinación.

## **KESIMPULAN**

### **TINJAUAN SEJARAH HABITAT DAN ANCAMAN BAGI SERO AMBRANG DI PULAU JAVA**

Tinjauan atas beberapa sumber baru dari informasi historis menunjukkan bahwa Sero Ambrang *Aonyx cinerea* (berang-berang) hidup di berbagai habitat di luar hutan di pulau Jawa, Indonesia. Pencegahan terhadap kebiasaan Sero Ambrang untuk makan di kolam ikan (empang) adalah ancaman utama terhadap species ini, dan hal ini harus dipertimbangkan ketika menyusun strategi konservasi untuk mencegahnya dari kepunahan.