CATnews is the newsletter of the Cat Specialist Group, a component of the Species Survival Commission of The World Conservation Union (IUCN). It is published twice a year, and is available to members and the Friends of the Cat Group.

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Guidelines for authors are available at www.catsg.org/catnews

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Cover Photo: Borneo bay cat, Malaysian Borneo
Photo J. Ross and A. J. Hearn
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Does the fishing cat inhabit Laos?

No fishing cat *Prionailurus viverrinus* record from Laos is supported by specimen or photograph. Historical reports derive only from works replete with major errors. Recent reports based only on tracks and/or villagers’ reports cannot be assessed for reliability. Of three recent field sightings, one was probably a leopard cat *P. bengalensis*, one was seen too poorly for identification, but one was seen well and characters noted fit fishing cat. It was in a fast river through degraded hill evergreen forest. This habitat may be atypical for the species and the site may be unusually far inland: a critical review of Southeast Asian distribution is needed. Typical 1990s-2000s habitat may be atypical for the species and the site may be unusually far inland: a noted fit fishing cat. It was in a fast river through degraded hill evergreen forest. This habitat may be atypical for the species and the site may be unusually far inland: a critical review of Southeast Asian distribution is needed. Typical 1990s-2000s habitat may be atypical for the species and the site may be unusually far inland: a not.

Fishing cat, Endangered on the IUCN Red List of Threatened Species (Mukherjee et al. 2008), inhabits mainland tropical Asia and the large islands of Sri Lanka, Java and, perhaps, Sumatra (e.g. Corbet & Hill 1992; Duckworth et al. 2009). Here we collate information from Laos, including recent reports and records, widely used in secondary compilations, which have however entered ‘common knowledge’ without public availability of their basis for identification. Laos covers a landlocked 236,800 km² of mostly rugged terrain. Other than streams, natural wetlands are almost restricted to the plains beside the River Mekong and its major tributaries. These plains are heavily farmed, with productivity intensifying, and human population density matches the regional average. Until 1950 mammals were collected only patchily in the country, and little reliable information was generated between 1950 and 1988. During 1989-1998, many areas were surveyed for large mammals (including small carnivores), birds and habitat condition (Duckworth et al. 1999); surveys continue at reduced levels.

### Historical information

Early standard reviews of Indochina’s (Laos, Cambodia and Vietnam) mammals (Osgood 1932; Delacour 1940) recorded fishing cat only from South Annam and Cochinchina (southern Vietnam). No Lao specimen has ever been reported by an international museum and A. Wilting’s extensive recent search traced none (Table 1).

Cheminaud (1942) wrote ten pages on the species in Laos, mostly irrelevant to evaluating its Lao status, comprising a discussion of the inadequacy of its common names, corrective comments on its degree of piscivory, adulation at such a small beast’s ferocity, legends about domestic cats from the then king of Louangphabang, and other anecdotes. He stated that while hunting around Pak-Ou (20°03’N/102°13’E), he shot a sun bear *Ursus malayanus* and a fishing cat fighting on the Nam (= River) Ou’s bank, and that the then British governor of the Shan States (Myanmar), whom he met in Chiang Saen, Thailand (over the Mekong opposite Laos, at 20°15’N/100°05’E), told him that he had raised a pet fishing cat since infancy, which produced three beautiful offspring with a Burmese cat. He also spoke of a captive fishing cat in Xaignabouli province, giving no opinion on its origin. He wrote (p. 135; in translation) that this species inhabited “the thick jungles of the north-western Indochinese peninsula”. His only primary detail on its appearance is a gory discussion on the damage to the fighting fishing cat from the bear: irrelevant to assessing the species concerned. Apparently only on this basis, Deuve & Deuve (1963) listed fishing cat for Laos, in the process converting the conversation in Chiang Saen to a locality record, the other side of the Mekong, around Ban Houayxai (Laos). They cautioned that, without specimens, confirming this cat for Laos was premature, and noted that Cheminaud’s (1942) Lao name for fishing cat, *sua hay*, meant any wild cat in Khammouan province. Deuve (1972) abandoned these admirable cautions, simply stating that fishing cat, *sua hay*, was known in Laos from Pak-Ou and the Mekong banks round Houayxai.

### Modern information

Nam Theun Extension proposed National Protected Area, 1996

According to WCS (1996: 9), “while crossing the Nam Pan, a fishing cat was observed swimming across the river”. This cat was observed by JW at ca.13h00 one sunny day in mid-January 1996, beside the Nam Pan, in this stretch a boulder-strewn mountain river in a rather steep-sided valley within a hill evergreen forest-swidden mosaic. The site lies at about 18°28’N/104°45’S (580 m asl), ca. 2 km from an (unmapped) Hmong village. Ongoing inability to find the extensive notes taken at

Table 1. Museums surveyed by A. Wilting (in litt. 2010) for fishing cat specimens.

<table>
<thead>
<tr>
<th>Museum</th>
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<tbody>
<tr>
<td>American Museum of Natural History, New York, USA</td>
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<tr>
<td>Institut Royal des Sciences Naturelles, Brussels, Belgium</td>
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<tr>
<td>Museum National d’Histoire Naturelle, Paris, France</td>
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<tr>
<td>Staatliche Naturschutz-Sammlung Dresden, Museum für Tierkunde, Germany</td>
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<tr>
<td>Naturhistorisches Museum der Bürgergemeinde Bern, Switzerland</td>
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<tr>
<td>National Museum of Natural History (Naturalis), Leiden, Netherlands</td>
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<tr>
<td>Senckenberg-Museum Frankfurt, Germany</td>
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<tr>
<td>Staatliches Museum für Naturkunde, Stuttgart, Germany</td>
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<tr>
<td>National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA</td>
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<tr>
<td>Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany</td>
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<tr>
<td>Museum für Naturkunde, Berlin, Germany</td>
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<td>Zoologisch Museum, University of Amsterdam, Netherlands</td>
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<td>Raffles Museum of Biodiversity Research, Singapore</td>
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<tr>
<td>Zoologische Staatssammlung München, Germany</td>
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<tr>
<td>Zoologisches Institut und Zoologisches Museum, Universität Hamburg, Germany</td>
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</tbody>
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1 In addition, the Natural History Museum, South Kensington, U.K. is also known to hold none from Laos (JWD).

2 One 1929 Delacour specimen is labelled merely ‘Indochine’, so may conceivably have originated in Laos.
the time means that the following is written from memory, vivid despite the 14-year lapse. Some 40 m from him, a grey-buff coated cat emerged from a verdant water’s-edge tangle into the turbulent water. It swam directly across the river between the boulders, a distance of ca. 15 m, apparently unaware of JW. It was rather stocky and quite densely spotted, looking so large that leopard Panthera pardus was contemplated. It kept its tail dry, held at least 10 degrees above the water surface. The clearly visible, dark-ringed, tail was obviously short relative to the animal’s body compared with a leopard’s, and the dark blotches just visible along the spine had a rather linear pattern, not the more randomly arranged rosettes of a leopard. Immediately on gaining the far bank the cat disappeared into dense vegetation. JW already knew leopard cat Prionailurus bengalensis and jungle cat Felis chaus in the field, and has subsequently observed various wild leopards. The features noted fit only fishing cat among South-east Asian species, although habitual tail posture when swimming seems not documented. A short film on the Internet (http://www.youtube.com/watch?v=_yqRYvXRARM&feature=related) shows a fishing cat swimming, which holds its tail horizontal, at the water surface; but the exposure is too brief to be taken as an indication of ‘standard’ behaviour for the species.

**Xe Xou lowlands, Dong Ampham National Protected Area (NPA), 1997**

Davidson et al. (1997: 28) stated that “one seen briefly in January, flushed from the banks of the Xe [= River] Xou, ca. 7 km east of Ban [village of] Antoum [14°44’22’’N/107°16’15’’E] soon after midday... confirms its presence in Dong Ampham”. This was observed by RT on 12 January 1996, who wrote: “Mammal. Very large house cat size with a short stout tail seen running from riverside through vegetation. Tail was half a house cat size and thicker. Appeared greyish in coloration [the animal; not just the tail]. Very brief view 12.47’’. Appended later is ‘Fishing Cat?’”. It was seen from a boat motoring upstream at ca.14°45’N/107°17’’E (130 m asl). The Xe Xou is a wide all-year river amid much bamboo grew both sides of the river. RT, with no previous experience of fishing cat, based identification upon the lack of other candidates for a grey-toned, cat-shaped, animal of such a size with a tail of such relative length. While what was seen is consistent with a fishing cat and it may well have been one, it is inadequate for treatment as a certain record.

**Xe Sap NPA, 1999**

Steinmetz et al. (1999: 49) stated that a fishing cat was seen at 09h30 on 6 March 1999 in bamboo thicket near the Abourl swamp (1,250 m). This flat marshy area with slow-flowing streams lies at 16°07’40’’N/106°56’45’’E, near an abandoned village now grassland and secondary forest, amid hill evergreen forest. The observer, TS, was uncertain of identification: the lack of caveat in the report is consistent with a fishing cat and it may well have been one, it is inadequate for treatment as a certain record.

**Discussion**

Duckworth et al. (1999: 192) gave reports (all as provisional, irrespective of designation in the original source) from various areas additional to those above, all based on signs and/or village interviews. Although Round (1998) gave measurements of one set of footprints (of nine assigned provisionally to the species), no others described the signs observed. Over 30 species of the order Carnivora inhabit Laos, and few data for confusion species’ signs in Laos exist, cautioning any sign-based claim of fishing cat (Steinmetz et al. 1999). Assessments of sign record reliability generally reveal overconfident species identification, even in much simpler carnivore communities (e.g.
Davison et al. 2002; Janecka et al. 2008, Evans et al. 2009). Sign-based claims are therefore all open to serious doubt. Village information is also untenable: it is impossible to interpret consistently and reliably to species for small cats in Laos (Steinmetz 1998, Duckworth et al. 2005). Hence, these reports are not detailed here.

McKelvey et al. (2008) discussed several North American cases where ‘common-knowledge’ acceptance of a species’ occurrence arose through piecemeal accumulation of reports, each unproven on its own, but giving an appearance of mutual corroboration; yet a rigorous analysis found acceptance in error. Fishing cat is known in Laos by just such an accumulation, begging the question of whether it occurs there at all: as a precedent, the generally accepted presence of this readily misidentified species on the entire island of Sumatra may be an artefact, although the island remains too poorly surveyed for a firm decision (Duckworth et al. 2009).

Historical fishing cat ‘records’ from Laos are valueless. Cheminaud’s (1939, 1942) stated Indochinese distribution, in the north-west but not, implicitly, elsewhere, is surprising for a species then known in the region only from the coastal lowlands (which define the peninsula to the east, south and south-west). He discussed eight mammal species never reliably recorded from Laos, with various other statements highlighting his ignorance of the Lao fauna, and his information must be discarded (Duckworth, in press): selective acceptance is illogical because he wrote watertight first-hand accounts of hunting followed by close examination of such biogeographic improbabilities as chital Axis axis and sloth bear Melursus ursinus. It would be rash to refute, absolutely, the possibility of any particular species’ presence, but that all eight inhabited Laos is impossible. For his stated role of educating the French about Lao animals, Cheminaud evidently wrote a series of parables, enhancing readability through free imaginative rein (Duckworth, in press).

J. and M. Deuve, in a series of 1960s papers in their self-edited Bulletin de la Société Royale d’Histoire Naturelle du Laos, presented Cheminaud’s records, but only after deleting species they considered unlikely to inhabit Laos, thereby denying their readers the context of Cheminaud’s extraordinary Lao bestiary. The Deuves’ screening retained several species unknown from Laos (e.g. a musk-deer Moschus sp., Asian tapir Tapirus indicus and red panda Ailurus fulgens) and their own purportedly primary information was riddled with mistakes; they even utterly mis-portrayed the douc Pygathrix nemaeus (Timmins & Duckworth 1999: 480), an animal which would seem unmistakeable. Each 1990s claim of fishing cat in Laos was presented without detailing what was observed, preventing readers assessing its reliability. Then-standard works mostly included Laos, without any caveat, within fishing cat range (e.g. Lekagul & McNeely 1977; Corbet & Hill 1992; Nowell & Jackson 1996). Observers could assume that their fishing cat records had parochial, but not national or global, interest, and may have been less critical of their identifications.

Laos might be assumed to support fishing cat, because it inhabits neighbouring Vietnam (Nguyen Xuan Dang et al. 2004: from U Minh Thuong Nature Reserve, photographs examined by JWD), Cambodia (Rainey 2010) and Thailand (Cutter & Cutter 2009). But unlike Laos these countries have coastline, and on Java Melisch et al. (1996) considered fishing cat strongly associated with coastal habitats; although in India and Nepal the species occurs far from the coast (e.g. Sunquist & Sunquist 2009, and references therein), it should not be assumed that fishing cats in mainland South-east Asia necessarily use habitats more like their conspecifics in South Asia than in Java. The specific records cited here from these mainland South-east Asian countries are not open to doubt, but the available ‘general picture’ of range (e.g. various sources’ maps shading in entire countries) has never received critical review. How much in South-east Asia fishing cat extends inland into habitats as found in Laos is unknown: but Cutter & Cutter (2009) investigated four Thai localities with recent reports, two interior and two coastal, and found the cat at only the two coastal sites. Single specimens from the Dawazup (26°35’N/96°15’E) in far north-western Myanmar (Carter 1943; AMNH 113496) and from Tak province, Thailand (NMNH 253538, per A. Witt in litt. 2009, inferred ca. 17°11’N/98°54’E) prove penetration far inland in South-east Asia but not to a general enough pattern sufficient to assume that the species inhabits Laos. The record most indicative that fishing cat might inhabit Laos is of one camera-trapped in Cambodia at 14°05’01”N/104°35’13”E, in deciduous dipterocarp forest, close to floodplain grassland (Rainey 2010). Somewhat similar habitat, but now lacking extensive floodplain grassland, extends across much of northern Cambodia and into southern Laos: the Xe Xou lowlands form its eastern extent. These habitats have never been intensively camera-trapped in Laos, and surveys in Cambodia towards the Lao border have been limited (H. Rainey in litt. 2009). Whether fishing cat occurs in the Lao parts of this landscape cannot be assessed.

Camera-trapping in Laos (e.g. Johnson et al. 2009) has mostly been in closed hill forest far from the floodplain habitats generally assumed to support fishing cat. The Nam Theun Extension sighting was in such hill forest, but there seems no independent evidence of the species in this habitat. The lack of any Lao record in trade or a village indicates, given the regularity with which forest cats are found (Duckworth et al. 2005), that fishing cat is at best rare in Laos. As a habitat specialist, a low total population would indeed be expected, so large numbers in human possession are unlikely, as in Java (Duckworth et al. 2009).

We recommend the Nam Theun Extension sighting be considered valid and the Xe Xou sighting hypothetical, but recognise that some will consider both hypothetical. Anyone finding a fishing cat in Laos should publish full details, a message needing wide dissemination: modern secondary sources all list/map the species for Laos without caveat (Duckworth et al. 1999, Wozencraft 2005, Francis 2008, Mukherjee et al. 2008, Parr 2008, Sunquist & Sunquist 2009). The southern lowland plains warrant priority searches, but future hill-forest camera-trapping should set some cameras beside wider rivers: perhaps fishing cat’s use of such habitats is much under-estimated. Stand-wetlands and lowland streams are under rapid conversion throughout the country and support high levels of hunting (e.g. Claridge 1986, Duckworth & Evans 2007, Bezuin et al. 2008). Few national protected areas support extensive such habitats (Robichaud et al. 2001) and awareness of the need for conservation management of remaining areas is uneven.

If fishing cat inhabits Laos, without specific action it may not do so for much longer.

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