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Note

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First report of the catfish Nilgiri Mystus *Hemibagrus punctatus* (Jerdon, 1849) (Bagridae) from Stanley Reservoir, Tamil Nadu, India

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The catfish genus *Hemibagrus* is represented by three species in the Indian subcontinent, namely, *H. menoda* (Hamilton, 1822), *H. maydelli* (Rössel, 1964), and *H. punctatus* (Jerdon, 1849). *Hemibagrus menoda* is reported from the Brahmaputra, Ganges, Mahanadi, and Godavari river drainages in India, Nepal, and Bangladesh (Ng & Ferraris 2000; Ng 2010) and *H. maydelli* is known to be restricted to the Krishna River system in peninsular India (Dahanukar et al. 2011). The Nilgiri Mystus *H. punctatus* is endemic to the Cauvery River system in the Western Ghats of India (Dahanukar et al. 2004; Ng & Kottelat 2013), where it faces severe threats including pollution, habitat alteration due to construction of dams and indiscriminate fishing resulting in drastic population declines close to 100% and the species being listed as Critically Endangered on the IUCN Red List (Raghavan & Ali 2011).

Jerdon (1849) described *Bagrus punctatus* (=*Hemibagrus* Bleeker, 1862) from the Cauvery River and its tributaries in southern India. Subsequent records of the species are available from the main stem of the Cauvery (Rao & Seshachar 1927; Hora 1937; Ali et al. 2013) and its various tributaries including Bhavani (Day 1867, 1877, 1878; Mukerji 1931; Rajan 1955), Moyar (Rajan 1955; Rajan 1963; Manimekalan 1998), Hemavathy (Jayaram 1977; Madhyastha & Murugan 1993), Kabini (Easa & Shaji 1997), and Bhavani (Athikadavu) (Ali et al. 2013). Recent ichthyofaunal surveys (March 2018) in the Stanley Reservoir (Image 1; Fig. 1) resulted in the collection of 10 specimens of *H. punctatus,* which constituting a new distribution record for the species. The collected specimens were identified following Jerdon (1849) and Ng & Kottelat (2013) and subsequently preserved in 10% formalin and deposited in the freshwater fish collections of the Zoological Survey of India, Kolkata (ZSI FF7653-7654), and in the personal collection of J. Praveenraj (JPC-1-8) (Table 1).

Materials collected: ZSI FF 7653-7654, 2ex., 16.iii.2018, 138.84–162.82 mm SL, India, Tamil Nadu, Cauvery River, Stanley Reservoir, 11.9^{0}N & 77.77^{0}E, 221.50m, coll. N. Moulitharan; JPC-1-8, 8 ex., 16.iii.2018, 132.97–179.8 mm SL, India, Tamil Nadu, Cauvery River, Stanley Reservoir, 11.9^{0}N & 77.77^{0}E, coll. N. Moulitharan.

Hemibagrus punctatus was not recorded specifically from the Stanley Reservoir in the scientific literature despite being known to be consistently harvested in gill net (mesh size 24–45 mm) fisheries. Locally known as 'Kallu Keluthi' in Tamil (Kallu: stone, Keluthi: catfish), this species, however, represents only a negligible part

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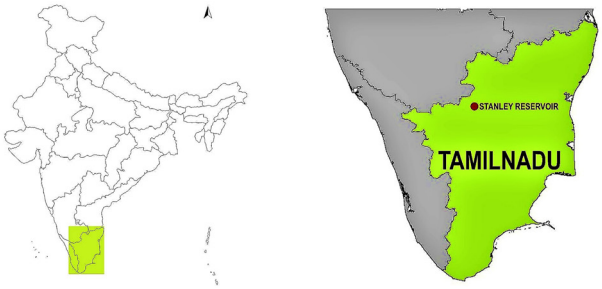

Figure 1. Location of Stanley Reservoir in Tamil Nadu, India

Image 1. Collection site of *Hemibagrus punctatus*: a pool cut off from the Stanley Reservoir in Tamil Nadu, India

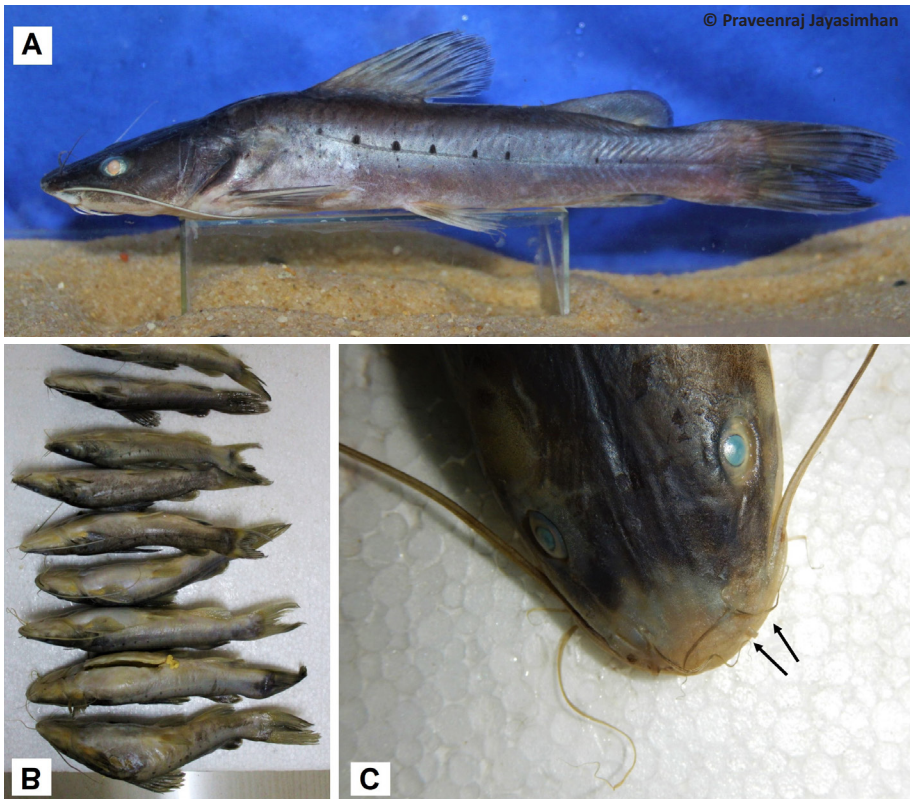

Image 2. *Hemibagrus punctatus*. A - live specimen, 139.06mm SL, B - preserved specimens (n=10), C - black arrows indicating forked maxillary barbel.

of the capture fisheries of the reservoir and is generally consumed in the dry form.

Hemibagrus punctatus is widely considered to be a rare species as most previous records are based only on a single specimen (e.g., Mukerji 1931; Hora 1937; Rajan 1955). This species was also considered extinct from its native range until its rediscovery (based on four specimens) after a gap of 14 years from the tributaries of Cauvery in Tamil Nadu and Karnataka (Ali et al. 2013).

A number of factors pose threat to the continued survival of *H. punctatus* in and around the Stanley Reservoir, including ghost fishing, use of pesticides for agriculture along the shores of the reservoir (Image 3), and increasing occurrence of invasive alien species, namely, *Oreochromis* spp. and *Clarias gariepinus* (Image 4).

One specimen of *H. punctatus* (JPC-8, 179.8mm SL) was dissected for examining the gut content, which revealed traces of fish and terrestrial grass. In the specimens examined, we also noted the presence of forked maxillary barbel (Image 2C), an aberration that was also recorded in *Mystus vittatus* (Bloch, 1794) (Rao 1984).

Although *H.punctatus* is assessed as Critically Endangered (Raghavan & Ali 2013), Ali et al. (2013) suggested reassigning it to the Vulnerable category

Table 1. Morphometric characters of *Hemibagrus punctatus* (n=10) from Stanley Reservoir in Tamil Nadu, India. All proportional measurements are expressed as percents of standard length and head length.

Characters	Mean (Mean ± S.E.)
Standard Length (SL)	**155.77±5.55mm**
In % SL	In mm
Head length	27.77
Head depth	14.40
Maximum head width	20.44
Pre-dorsal length	39.75
Pre-pectoral length	26.71
Pre-pelvic length	52.63
Pre-anal length	70.47
Pre-anus length	59.29
Least depth of caudal peduncle	10.04
Caudal-peduncle length	17.53
Dorsal-fin length	19.67
Dorsal-fin base length	15.44
Pectoral-fin length	18.49
Pectoral-fin base length	4.80
Pelvic-fin length	14.94
Anal-fin length	14.04
Anal-fin base length	12.23
Dorsal to adipose distance	17.82
Adipose-fin height	4.60
Adipose-fin base length	12.97
Post adipose distance	15.58
Maxillary barbel length	58.94

Characters	Mean (Mean ± S.E.)
Nasal barbel length	11.16
Mandibular barbel length	23.51
Inner mandibular barbel length	12.47
Eye diameter	3.69
Snout length	11.42
Inter-orbital length	9.91
Dorsal spine length	13.15
Caudal-fin length	22.50
Post-orbital length	12.69
Body depth at anus	15.65
Pectoral-spine length	16.75
Head length (HL)	**43.26±1.81mm**
In % HL	
Head depth	51.86
Maximum head width	70.29
Eye diameter	13.29
Snout length	41.13
Inter-orbital length	35.69
Post-orbital length	45.69
Maxillary barbel length	212.24
Nasal barbel length	40.20
Mandibular barbel length	84.67
Inner mandibular barbel length	44.90

Image 3. Around Stanley Reservoir in Tamil Nadu, India. A - abandoned net on exposed rocks, B - burning of old nets at the banks, C - evidence of use of pesticides for agriculture carried out along the banks.

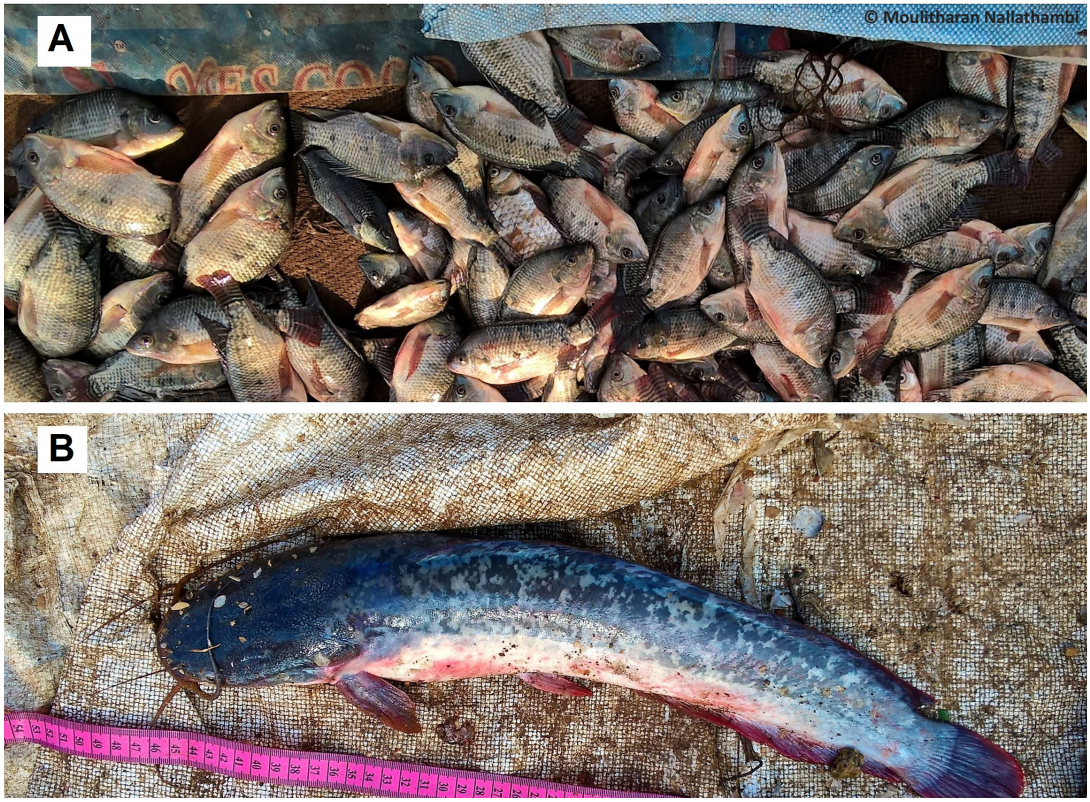

Image 4. Catch from the *H. punctatus* collection site. A - *Oreochromis* spp., B - *Clarias gariepinus*.

considering that its average population decline was more than or equal to 30%. This species, however, continues to face a decline in its native range (Ali et al. 2013), and ecological and community-based conservation measures need to be implemented to ensure healthy populations of this threatened species.

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