

## Biodiversity Record: New Singapore record of the Kampen's ilisha, *Ilisha kampeni*

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**Subjects:** Kampen's Ilisha, *Ilisha kampeni* (Teleostei: Clupeiformes: Pristigasteridae).

**Subjects identified by:** Aidan Raphael Keh and Jiayuan Lin.

**Locations, dates and times:** Two separate observations —

1) Pulau Ubin off Puaka Bridge; 15 April 2022, around 0943 hrs.

2) Singapore Strait off Bedok Jetty; 9 July 2024, around 2048 hrs.

**Habitats:** 1) At Pulau Ubin, brackish water in former prawn pond along mangrove creek, around 2 to 3 m depth. 2) At Bedok Jetty, shallow coastal sea of 5 to 7 m depth with muddy silt substrate.

**Observers:** Aidan Raphael Keh and Jiayuan Lin.



Fig. 1. *Ilisha kampeni* from Pulau Ubin in April 2022 (Photograph by: Aidan Raphael Keh).



Fig. 2. *Ilisha kampeni* from Bedok Jetty in July 2024. Right side of fish reversed (Photograph by: Jiayuan Lin).



## Observations:

1) One example of around 17 cm total length was caught by Aidan Raphael Keh on hook and line (Fig. 1) near the water surface during a downpour. It was among a school of the anchovy *Thrissina katana*. The specimen was dissected to examine its swim bladder.

2) A school of *Ilisha* was observed actively feeding off Bedok Jetty beginning at approximately 1930 hrs. At around 2048 hrs, three *Ilisha kampeni* were obtained by Jiayuan Lin via hook and line from the water's surface. A gravid female of 12.5 cm standard length (Fig. 2), was retained, dissected, and preserved as a voucher specimen in the Zoological Reference Collection of the Lee Kong Chian Natural History Museum, at the National University of Singapore, under the catalogue number ZRC 66481. All congeners sampled concurrently from the same locality at subsurface depths to approximately 2 m, were identified as the Indian ilisha (*Ilisha melastoma*).

In both encounters, the *Ilisha* were caught on sabiki rigs with feathered terminal hooks mimicking both zooplankton and juveniles of other Clupeiformes (namely *Stolephorus* spp. and *Sardinella* spp.).

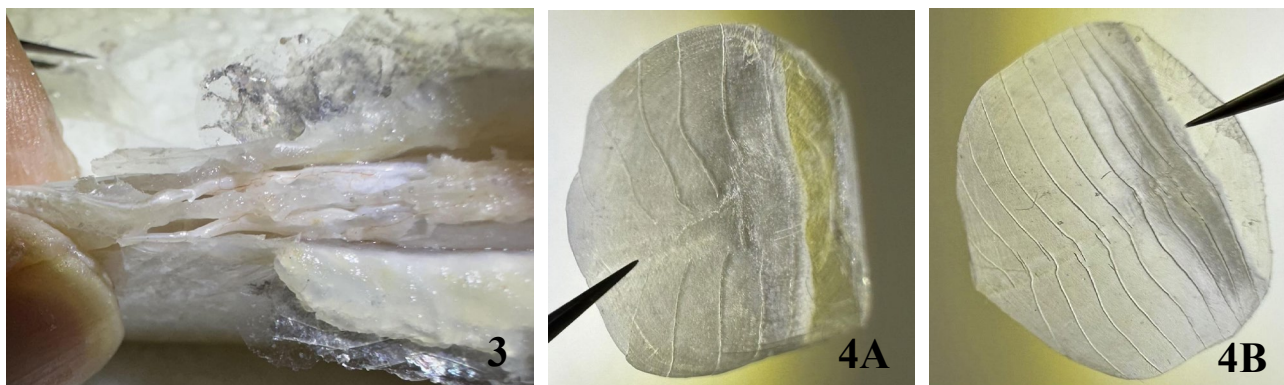


Fig. 3. Swim bladder posterior branches of *Ilisha kampeni* from Bedok Jetty. The branches extend further into the caudal muscle but have been extracted for clearer view. The structure in between the two posterior swim bladder branches are the anal fin pterygiophores, with the rayed part of the anal fin cut away during dissection. Fig. 4. Comparisons of scale striae in (A) *Ilisha kampeni* and (B) *Ilisha melastoma* (Photographs by: Jiayuan Lin).

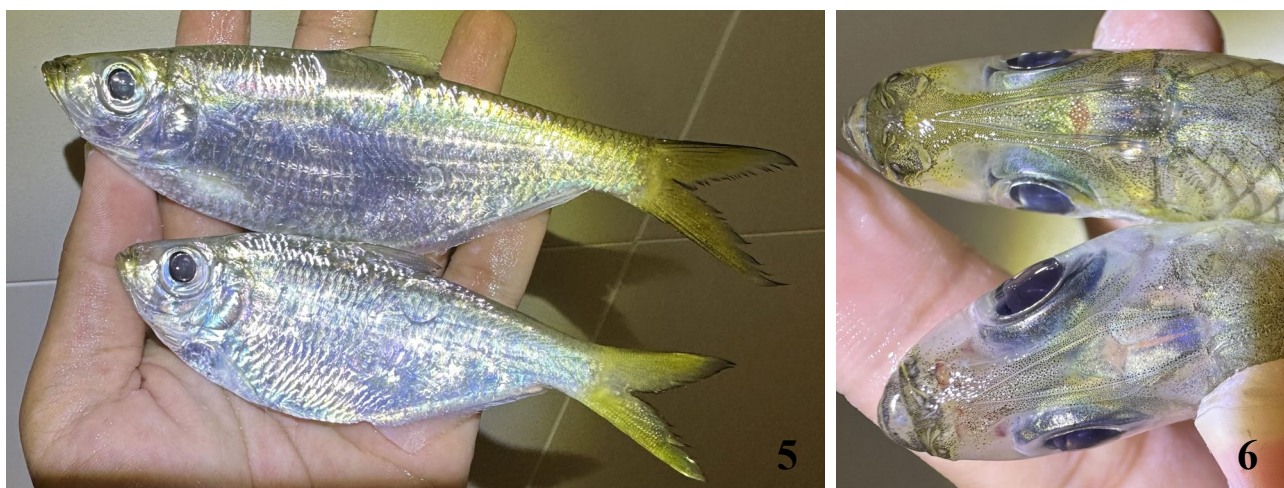


Fig. 5. Comparison of body depths of *Ilisha kampeni* (top) and *Ilisha melastoma* (bottom), both from Bedok Jetty. Fig. 6. Comparison of head striae of *Ilisha kampeni* (top) and *Ilisha melastoma* (bottom) from Bedok Jetty (Photographs by: Jiayuan Lin).

**Remarks:** This marks the first known record of *Ilisha kampeni* in Singapore (see Herre & Myers, 1937; Tweedie, 1940; Jaafar et al, 2024). Described by Weber & De Beaufort (1913) as *Pellona kampeni* based on specimens from Java and East Kalimantan, *Ilisha kampeni* was subsequently recorded from the eastern coasts of India (Ramaiyan & Whitehead, 1975) and the South China Sea (Randall & Lim, 2000). Its presence in Singapore is not surprising, and likely to have been previously overlooked due to its morphological similarity to other species of *Ilisha*.

Three other species of *Ilisha* have been recorded in Singapore, these being *Ilisha megaloptera*, *Ilisha melastoma*, and *Ilisha elongata* (see for example Jaafar et al, 2024, with *Ilisha melastoma* as *Ilisha indica*). *Ilisha kampeni* can be distinguished from *Ilisha megaloptera* and *Ilisha elongata* in having two posterior branches of the swim bladder compared to one posterior branch in the latter two species (Ramaiyan & Whitehead, 1975; Whitehead, 1985; Munroe et al, 1999;

Fig. 3). It is distinguished from *Ilisha melastoma* by having scale striae clearly discontinuous at the centre of scales (Fig. 4A) versus continuous or overlapping in *Ilisha melastoma* (Fig. 4B), a more slender body (Fig. 5), and a narrower head with differences in striae on the dorsal surface (Fig. 6). *Ilisha kampeni* bears head striae of a “*megaloptera*” pattern (as defined by Seshagiri Rao, 1972, and revised by Ramaian & Whitehead, 1975), while *Ilisha melastoma* bears head striae of the “*indica*” pattern (Seshagiri Rao, 1972, with *Ilisha melastoma* as *Ilisha indica*; Seshagiri Rao, 1973; Ramaian & Whitehead, 1975; Whitehead, 1985; Munroe et al, 1999).

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