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Corrigendum: Novel approach to studying marine fauna: using long-life remote underwater video cameras to assess occurrence and behaviour of threatened and data-deficient elasmobranch species in southern Mozambique

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A Corrigendum on

Novel approach to studying marine fauna: using long-life remote underwater video cameras to assess occurrence and behaviour of threatened and data-deficient elasmobranch species in southern Mozambique

By Buschmann J, Roques KG, Davies JS, Dissanayake A and Keeping JA (2024). *Front. Mar. Sci.* 11:1518710. doi: 10.3389/fmars.2024.1518710

In the published article, there was an error in species identification for *Aetobatus narinari* (corrected to *Aetobatus ocellatus*) and for *Rhynchobatus laevis* (corrected to *Rhynchobatus djiddensis*).

A correction for *Aetobatus narinari* to *Aetobatus ocellatus* has been made to the **Abstract** section, page 1.

This sentence previously stated: "In contrast, spotted eagle rays (*Aetobatus narinari*) and blacktip sharks (*Carcharhinus limbatus*) were solely observed cruising over the reef without engaging in cleaning interactions (n = 40 and n = 27 respectively)."

The corrected sentence states: "In contrast, spotted eagle rays (*Aetobatus ocellatus*) and blacktip sharks (*Carcharhinus limbatus*) were solely observed cruising over the reef without engaging in cleaning interactions (n = 40 and n = 27 respectively)."

A correction for *Aetobatus narinari* to *Aetobatus ocellatus* has been made to the **Introduction** section, page 2.

This sentence previously stated: "Among those species are mobulid rays (*M. alfredi, M. birostris, Mobula kuhlii*), stingrays (*Megatrygon microps, Taeniurops meyeni, Pateobatis jenkinsii*), eagle rays (*Aetobatus narinari, Aetomylaeus vespertilio*), guitarfish (*Rhina ancylostoma*), wedgefish (*Rhynchobatus australiae, Rhynchobatus djiddensis*), whale sharks (*R. typus*), requiem sharks (*Carcharhinus amblyrhynchos, Carcharhinus leucas, Carcharhinus limbatus, Carcharhinus obscurus, Triaenodon obesus*), leopard sharks (*Stegostoma tigrinum*) and hammerhead sharks (*Sphyrna lewini*) (Marshall, 2008; Guillaume and Séret, 2021; Keeping et al., 2021; Pereira, 2021; Venables et al., 2022)."

The corrected sentence states: "Among those species are mobulid rays (*M. alfredi, M. birostris, Mobula kuhlii*), stingrays (*Megatrygon microps, Taeniurops meyeni, Pateobatis jenkinsii*), eagle rays (*Aetobatus ocellatus, Aetomylaeus vespertilio*), guitarfish (*Rhina ancylostoma*), wedgefish (*Rhynchobatus australiae, Rhynchobatus djiddensis*), whale sharks (*R. typus*), requiem sharks (*Carcharhinus amblyrhynchos, Carcharhinus leucas, Carcharhinus limbatus, Carcharhinus obscurus, Triaenodon obesus*), leopard sharks (*Stegostoma tigrinum*) and hammerhead sharks (*Sphyrna lewini*) (Marshall, 2008; Guillaume and Séret, 2021; Keeping et al., 2021; Pereira, 2021; Venables et al., 2022)."

A correction for *Aetobatus narinari* to *Aetobatus ocellatus* has been made to **Table 2**, page 6.

This sentence previously stated: "Similar behaviours have been observed for eagle rays (*Aetobatus narinari*) (Berthe et al., 2016) and smalleye stingrays (Buschmann, J., pers. obs.)."

The corrected sentence states: "Similar behaviours have been observed for eagle rays (*Aetobatus ocellatus*) (Berthe et al., 2016) and smalleye stingrays (Buschmann, J., pers. obs.)."

A correction for *Aetobatus narinari* to *Aetobatus ocellatus* has been made to **Table 4**, row 4 on page 8.

This sentence previously stated: "*Aetobatus narinari*"

The corrected sentence states: "*Aetobatus ocellatus*"

A correction for *Rhynchobatus laevis* to *Rhynchobatus djiddensis*/smoothnose wedgefish to whitespotted wedgefish has been made to **Table 4**, row 14 on page 8.

This sentence previously stated: "smoothnose wedgefish"

The corrected sentence states: "whitespotted wedgefish"

A correction for *Rhynchobatus laevis* to *Rhynchobatus djiddensis*/smoothnose wedgefish to whitespotted wedgefish has been made to **Table 4**, row 14 on page 8.

TABLE 2 Ethogram for sharks, and rays based on Klimley et al. (2023).

Behaviour	Description
Cruising	General swimming behaviours including slow, straight-line swimming, accelerated swimming, and tilted swimming as described by Klimley et al. (2023). Specific to manta rays, cruising behaviour involves swimming with the mouth closed and cephalic lobes rolled (Jaine et al., 2012; Germanov et al., 2019).
Cleaning	Parasitic body cleaning where cleaner fish remove ectoparasites and other unwanted materials from the client's body (Sazima and Moura, 2000). For sharks, this may involve lowering the caudal fin and assuming an angled position to give cleaners better access to heavily parasitized areas and swimming over the cleaning station repeatedly (Oliver et al., 2011). In some cases, cleaner fish may also enter the mouth of sharks to remove parasites (Ritter and Amin, 2016). For manta rays, cleaning behaviour has been described as the ray reducing its swimming speed when approaching a cleaning station, hovering or circling above the reef and making repeated passes over a cleaning station while being inspected by cleaner fish (Marshall, 2008; Jaine et al., 2012; Kitchen-Wheeler, 2013). In addition, the ray may exhibit stereotypical cleaning postures such as gill flaring, partially open mouth, unfurled cephalic lobes (manta rays) or an angled position in the water column (Marshall, 2008). Similar behaviours have been observed for eagle rays (*Aetobatus ocellatus*) (Berthe et al., 2016) and smalleye stingrays (Buschmann, J., pers. obs.). Cleaning behaviour also includes self-body cleaning, i.e. "chafing" or rolling the body along the substrate to remove parasites (Smith et al., 2015; Berthe et al., 2016).
Reproduction / Courtship	Includes any of the behaviours listed by Klimley et al. (2023) such as group circular swimming, where multiple sharks swim slowly in a circle snout to tail, and paired close swimming, where the male swims next to the female synchronously or the male rapidly chases the female near her tail. For some species (e.g. manta rays), courtship trains have been observed where multiple males chase after a single female, mimicking the beat of the female's pectoral fins and imitating her movements (Stevens, 2016). In addition to these behaviours, pre-copulatory positioning via body clasping or biting, where the male bites the pectoral fins, torso or tail of the female and rotates his body underneath the female until they are positioned abdomen to abdomen for clasper insertion, are included in this category (Klimley et al., 2023). Paired copulation while swimming, sinking or on the bottom also falls into this category (Klimley et al., 2023).
Feeding	Feeding behaviour includes filter-feeding, scavenging and predation (Klimley et al., 2023). For manta rays, feeding behaviours also include funnelling plankton into the mouth with the cephalic fins, chain feeding, piggyback feeding, somersault feeding, cyclone feeding, sideways feeding and bottom feeding (Stevens, 2016). Specific to manta rays, the cephalic lobes are typically unfurled when feeding (Jaine et al., 2012; Kitchen-Wheeler, 2013). Scavenging behaviours include slowly swimming around the bait and inspecting the bait as well as the actual biting and feeding on the bait (Klimley et al., 2023). Predatory behaviours such as ambushing active prey, carrying the prey underwater, lateral headshakes with the carcass between the jaws to remove the bite, electrical debilitation stunning the prey and digging out the prey from the substrate are also included in this category (Klimley et al., 2023).
Social behaviours	Following another individual from the same species, circling each other head to tail or investigating another individual with the snout (Klimley et al., 2023). Social behaviours also include schooling, where multiple individuals travel together, aggregating, swimming side by side or swimming by and turning their heads towards each other as they approach (Klimley et al., 2023). In addition, aggressive and defensive behaviours are included in this category. Examples of aggressive behaviour include jaw gaping, stiff and jerky movements, charging, chasing, dominance biting or territorial biting. For defensive behaviours rapid withdrawal, tonic immobility, anti-predatory biting and self-defence biting are included among others. For more detail, please refer to (Klimley et al., 2023).

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TABLE 4 Overview of sightings per species for both OOCAM and GoPro™ as well as total number of sightings per species.

Common name	Scientific name	Conservation status (IUCN)	Sightings count (OOCAM)	Sightings count (GoPro™)	Sightings count (total)
Reef manta ray	*Mobula alfredi*	Vulnerable	63	18	81
Smalleye stingray	*Megatrygon microps*	Data deficient	58	14	72
Oceanic manta ray	*Mobula birostris*	Endangered	40	21	61
Spotted eagle ray	*Aetobatus ocellatus*	Endangered	30	10	40
Blacktip shark	*Carcharhinus limbatus*	Vulnerable	19	8	27
Blotched fantail ray	*Taeniurops meyeni*	Vulnerable	20	1	21
Bowmouth guitarfish	*Rhina ancylostoma*	Critically endangered	10	8	18
Shortfin devil ray	*Mobula kuhlii*	Endangered	4*	5*	9*
Jenkins whipray	*Pateobatis jenkinsii*	Vulnerable	5	0	5
Scalloped hammerhead shark	*Sphyrna lewini*	Critically endangered	1	1	2
Pink whipray	*Pateobatis fai*	Vulnerable	1	0	1
Grey reef shark	*Carcharhinus amblyrhynchos*	Endangered	1	0	1
Whale shark	*Rhincodon typus*	Endangered	1	0	1
Whitespotted wedgefish	*Rhynchobatus djiddensis*	Critically endangered	1	0	1
Total			**254**	**86**	**340**

* Sightings refer to fevers of up to 55 individuals.
The table also includes the current IUCN conservation status for each species (IUCN, 2024).
Bold values represent the sum of the respective data points.

This sentence previously stated: "*Rhynchobatus laevis*"

The corrected sentence states: "*Rhynchobatus djiddensis*"

A correction for *Rhynchobatus laevis* to *Rhynchobatus djiddensis*/smoothnose wedgefish to whitespotted wedgefish has been made to Section *3.1 Data Summary,* second paragraph, page 8.

This sentence previously stated: "These were reef manta rays (n = 63), smalleye stingrays (n = 58), oceanic manta rays (n = 40), spotted eagle rays (n = 30), blotched fantail rays (n = 20), fevers of shortfin devil rays (n = 4, total of 15 individuals), bowmouth guitarfish (n = 10), blacktip sharks (n = 19), Jenkins whiprays (n = 5), pink whiprays (n = 1), scalloped hammerhead sharks (n = 1), grey reef sharks (n = 1), whale sharks (n = 1) and smoothnose wedgefish (n = 1)."

The corrected sentence states: "These were reef manta rays (n = 63), smalleye stingrays (n = 58), oceanic manta rays (n = 40), spotted eagle rays (n = 30), blotched fantail rays (n = 20), fevers of shortfin devil rays (n = 4, total of 15 individuals), bowmouth guitarfish (n = 10), blacktip sharks (n = 19), Jenkins whiprays (n = 5), pink whiprays (n = 1), scalloped hammerhead sharks (n = 1), grey reef sharks (n = 1), whale sharks (n = 1) and whitespotted wedgefish (n = 1)."

A correction for *Rhynchobatus laevis* to *Rhynchobatus djiddensis*/smoothnose wedgefish to whitespotted wedgefish has been made to Section *4.1 Elasmobranch Sightings,* first paragraph, page 9.

This sentence previously stated: "Pink whiprays, grey reef sharks, whale sharks and smoothnose wedgefish were only observed once."

The corrected sentence states: "Pink whiprays, grey reef sharks, whale sharks and whitespotted wedgefish were only observed once"

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

Publisher's note