

A FIRST SIGHTING REPORT OF SIX FISHES FROM THE MAHATMA GANDHI MARINE NATIONAL PARK, SOUTH ANDAMAN, INDIA

Kamla Devi ¹ & S. Kumaralingam ²

^{1,2}Zoological Survey of India, Andaman and Nicobar Regional Centre, Port Blair, Andaman and Nicobar Islands 744102, India

¹kddkamla@gmail.com, ²marinekumar@gmail.com (corresponding author)

Mahatma Gandhi Marine National Park (MGMNP), Wandoor, located between 11°22'06"–11°36'34"N & 92°30'00"–92°40'33"E, covering a total area of 281.5km² in the Bay of Bengal, is the first marine national park of the Andaman & Nicobar Islands. It is located to the south-west of the main South Andaman Island, and is approximately 30km from Port Blair. Besides a vast stretch of enchanting marine waters, magnificent coral reefs and their associated fauna, sandy beaches and mangrove swamps, the park includes a labyrinth of 15 bushy vegetated islands, namely, Alexandra, Red Skin, Grub, Chester, Snob, Belle, Tarmugli, Boat, Malay, Pluto, Hobday, Rifleman, Jolly Buoy, Twins and part of Rutland islands. Under the Wildlife (Protection) Act 1972, the park was declared as the Wandoor Marine National Park by the Andaman & Nicobar Administration on 24 May 1983. It was renamed MGMNP on 2 October 1994

vide notification No. 192/ 99/ f.No. CWLW/WL/61 dated 18 October 1999 for the protection of the natural resources of these islands. As a part of tourism development, two islands in the park, viz., Jolly Buoy and Red Skin are open for tourists to visit in the favorable season.

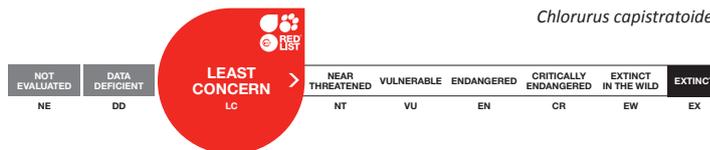
The present status of the ichthyofauna of Andaman & Nicobar Islands are known by the recent work of Rao (2009). He has published a checklist of fishes with 1369 species under 586 genera belonging to 175 families. Based on the field survey and available literature, Roy et al. (2009) added 11 more species to the list of ichthyofauna of these islands. Ramakrishna et al. (2010) reported 83 new records of fishes with an updated checklist containing 1463 species from these islands. Rephrase: Eight islands namely Alexandra, Red Skin, Grub, Chester, Tarmugli, Hobday, Jolly Buoy and Twins were selected out of 15 islands in the national park for ichthyofaunal studies. By using underwater photography around the selected islands inside MGMNP, the authors encountered six new records of fishes from the Andaman Islands.

Materials and Methods: The underwater surveys have been carried out by using self containing underwater breathing apparatus (SCUBA), around eight



ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

OPEN ACCESS



Chlorurus capistratooides



DOI: <http://dx.doi.org/10.11609/JoTT.o3694.7827-30> | **ZooBank:** urn:lsid:zoobank.org:pub:9DC0766D-D466-4FA2-B62C-02F6B44DAC08

Editor: A. Biju Kumar, University of Kerala, Thiruvananthapuram India.

Date of publication: 26 September 2015 (online & print)

Manuscript details: Ms # o3694 | Received 04 July 2014 | Final received 31 August 2015 | Finally accepted 06 September 2015

Citation: Devi, K. & S. Kumaralingam (2015). A first sighting report of six fishes from the Mahatma Gandhi Marine National Park, South Andaman, India. *Journal of Threatened Taxa* 7(11): 7827–7830; <http://dx.doi.org/10.11609/JoTT.o3694.7827-30>

Copyright: © Devi & Kumaralingam 2015. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use of this article in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

Funding: Ministry of Environment, Forests & Climate Change, Govt. of India, New Delhi.

Conflict of Interest: The authors declare no competing interests.

Acknowledgements The authors are grateful to the Director, Zoological Survey of India, Kolkata, and Officer-In-Charge, ANRC, Port Blair, for encouragement and facilities; to Chief Wildlife Warden, Port Blair; and staff for permission and facilities provided for the survey of the protected areas. Photographs by Koushik Sadhukhan and S. Kumaralingam, ZSI, Port Blair.



islands inside the MGMNP from April 2011 to December 2012 to study the ichthyofauna of MGMNP at a maximum depth of 25m. Underwater photographs were taken by the Sony cyber shot (DSC-T900) camera with housing facility. The fishes that were recorded as first reports were identified with the standard systematic taxonomic keys (Weber & de Beaufort 1929; de Beaufort 1940; Talwar & Kacker 1984; Smith & Heemstra 1986; Rao 2003; Allen et al. 2010).

Results:

Order: Perciformes

Family: Apogonidae

1. *Cheilodipterus isostigmus* (Schultz, 1940) (Image 1A)

Common name: Toothy Cardinalfish

Material observed: Hobday Island (11°32.337'N & 92°36.194'E); depth 5–12 m, 03.vii.2012.

Diagnostic features: Attains 10cm. Body narrow and elongate, snout slightly pointed, canine teeth at front of lower jaw; colour whitish with five dark longitudinal stripes narrower than inter-space, base of caudal fin yellow with black spot which is slightly above the line of mid lateral stripe.

Habitat & Ecology: Observed in sandy lagoons

and coral reef areas where waters are clear, usually in solitary form.

Distribution: Indo West Pacific, Malaysia, Indonesia.

Remarks: *Cheilodipterus isostigmus* is a new record from these islands. The closely resembling species *Cheilodipterus quinquelineatus* have yellow tail base with black spot in line with mid-lateral stripe.

2. *Cheilodipterus intermedius* Gon, 1993 (Image 1B)

Common name: Intermediate Cardinalfish

Material observed: Hobday Island (11°32.337'N & 92°36.194'E); depth 5–10 m, 03.vii.2012.

Diagnostic features: Attains 10–12 cm. Body narrow and elongate; snout slightly pointed; colour whitish-grey with eight broad dark brown to black stripes; tail base white with no hint of bar; upper and lower margins of caudal fin dusky.

Habitat & Ecology: Observed in rocky and coral reef caves, usually in solitary form or in pairs. Feed on zooplankton and benthic invertebrates (Randall 1990).

Distribution: Western Pacific, Indonesia, Papua New Guinea, Vietnam.

Remarks: *Cheilodipterus intermedius* is a new record from the Andaman and Nicobar Islands. The similar

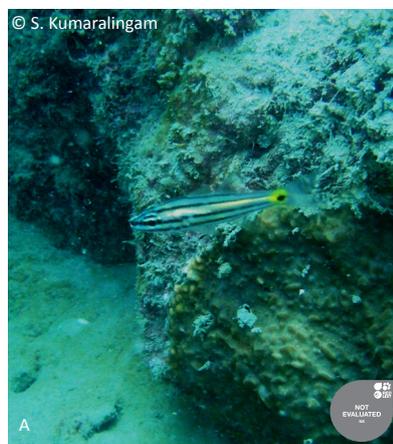


Image 1. Underwater photograph of Reef Associates Fishes, from Mahatma Gandhi Marine National Park, South Andaman
 A - *Cheilodipterus isostigmus* (Schultz, 1940; B - *Cheilodipterus intermedius* Gon, 1993; C - *Ostorhinchus nigrofasciatus* (Lachner, 1953);
 D - *Chlorurus capistratoides* (Bleeker, 1847); E - *Halichoeres richmondi* Fowler & Bean, 1928; F - *Halichoeres cosmetus* Randall & Smith, 1982.

species *Cheilodipterus macrodon* has whitish tail base with dark to dusky bar and large pointed teeth.

3. *Ostorhinchus nigrofasciatus* Lachner, 1953 (Image 1C)

Common name: Blackstripe cardinalfish

Material observed: Tarmugli Island (11°37.386'N & 92°33.364'E); depth 10–15 m, 11.xii.2012.

Diagnostic features: Small fishes approximately 6–7 cm. Mouth oblique; head rather short; trunk rounded; anterior preopercular margin smooth, posterior serrated. Body with five broad dark brown to black stripes, mid-lateral stripe does not extend onto tail; caudal fin forked.

Habitat & Ecology: Observed in reef flats and sea grass beds, usually in solitary form, in pairs or in loose clusters that utilize crevices in the reef for shelter. Feed on zooplankton & small benthic invertebrates (Randall 1990).

Distribution: Indo-Pacific, from the Red Sea to Tuamotu Island, Indian Ocean, northern and southern Japan.

Remarks: *Ostorhinchus nigrofasciatus* is a new record for Andaman & Nicobar Islands. The similar species *O. novemfasciatus*, in which a dark median stripe directly extends onto the tail, above and below dark stripes diagonal extends onto the tail.

Family: Scaridae

4. *Chlorurus capistratoides* (Bleeker, 1847) (Image 1D of juvenile)

Common name: Pink-margined Parrotfish / Indian Parrotfish

Material observed: Jolly Buoy Island (11°30.624'N & 92°36.675'E); depth 8–10 m, 14.xii.2012

Diagnostic features: Juvenile dark gray in colour with 4–5 whitish bars; head and caudal pink; outer margin of pectoral yellow.

Habitat & Ecology: Observed in coral reefs, solitary.

Distribution: East Africa, Mauritius, Seychelles and Indonesia

Remarks: Morphologically the adult is entirely different from the juvenile - the upper half of body green with pink streak on each scale, lower half pale, pectoral base yellow.

5. *Halichoeres richmondi* Bean & Fowler, 1928 (Image 1E)

Common name: Richmond's Wrasse

Material observed: Hobday Island (11°32.337'N & 92°36.194'E); depth 5–12 m, 03.vii.2012.

Diagnostic features: Attains 10–19 cm. Body slender,

pale yellowish-green with blue-green stripes on head & body, base of pectoral fin yellow, caudal fin emarginated, margin of caudal fin blue.

Habitat & Ecology: Observed in coral rubble and sandy bottom, usually in solitary form.

Distribution: Japan, Indonesia, Philippines and Papua New Guinea.

Remarks: Blue lines on head and blue caudal margin with yellow pectoral fin base are the remarkable features of Richmond's Wrasse.

Family: Labridae

6. *Halichoeres cosmetus* Randall & Smith, 1982 (Image 1F)

Common name: Cosmetic Wrasse

Material observed: Alexandra Island (11°35.004'N & 92°34.923'E); depth 5–10 m, 10.xii.2012.

Diagnostic features: Attains 8–10 cm. Body pale green with rectangular small and big orange spots which change to horizontal stripes in adults, a pair of black spots one on dorsal fin and another on upper tail base.

Habitat & Ecology: Observed in mixed coral rubble areas, solitary.

Distribution: East Africa to Andaman Sea, in Indonesia, and West Indian Ocean.

Remarks: Juveniles pale greenish with orange spots, which change into 6–7 bright orange stripes in the adult.

Discussion: During this study six new records of fishes were observed under one order, three families, and four genera. According to the ichthyofauna checklist of Andaman & Nicobar Islands by Rao (2009), Ramakrishna et al. (2010) and Rajan et al. (2013), the fish species (*Cheilodipterus isostigmus* (Schultz, 1940), *Cheilodipterus intermedius* Gon, 1993, *Ostorhinchus nigrofasciatus* Lachner, 1953, *Chlorurus capistratoides* (Bleeker, 1847), *Halichoeres richmondi* Fowler & Bean, 1928, and *Halichoeres cosmetus* Randall & Smith, 1982) were added to the list of ichthyofauna of these islands. The addition of these newly recorded fishes observed from the coral reef habitat of MGMNP, South Andaman, to the check list of ichthyofauna has resulted in a total of 1440 species under 580 genera belonging to 33 orders and 165 families.

References

- Allen, G., R. Steene, P. Humann & N. Deloach (2010). *Reef Fish Identification*. Tropical Pacific, New world publication, INC, USA, 457pp.
- de Beaufort, L.F. (1940). *The Fishes of the Indo-Australian Archipelago*, E.J. Brill Ltd., Leiden. 8: 17–326.
- Rajan, P.T., C.R. Sreeraj & T. Immanuel (2013). Fishes of Andaman and Nicobar Islands: a checklist. *Journal of Andaman Science Association*

18(1): 47–87.

- Ramakrishna, T. Immanuel, C.R. Sreeraj, C. Raghunathan, R. Raghuraman, P.T. Rajan & J.S.Y. Kumar (2010).** *An account of additions to the Ichthyofauna of Andaman and Nicobar Islands.* Records of Zoological Survey of India 326: 1–40.
- Randall, J.E., G.R. Allen & R.C. Steena (1990).** *Fishes of the Great Barrier Reef and Coral Sea.* Crawford House Press, Bathurst, New South Wales, 507pp.
- Rao, D.V. (2003).** *Guide to Reef Fishes of Andaman and Nicobar Islands.* Director Zoological Survey of India, Kolkata, 555pp.
- Rao, D.V. (2009).** Checklist of fishes of Andaman and Nicobar islands, Bay of Bengal. *Environment & Ecology* 27(1A): 334–353.
- Roy, D.S., P. Krishnan, G. George, R.C. Srivastava, M. Kaliyamoorthy, R. Raghuraman & C.R. Sreeraj (2009).** *Reef Biodiversity of North Bay.* CARI Publisher, Port Blair 132pp.
- Smith, M.M. & P.C. Heemstra (1986).** *Smith's Sea Fishes.* Springer-Verlag, New York, 1047pp.
- Talwar, P.K. & R.K. Kacker (1984).** *Commercial Sea Fishes of India.* Zoological Survey of India, 997pp.
- Weber, M. & L.F. de Beaufort (1929).** *The Fishes of the Indo- Australian Archipelago,* E.J. Brill Ltd., Leiden. 5: 273-372.

