

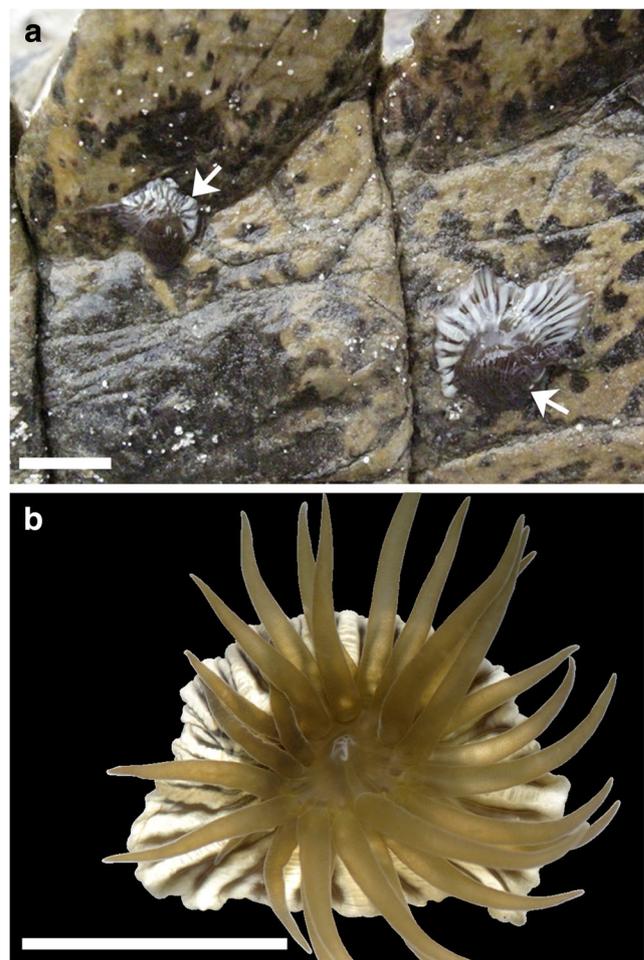
# Epibiont sea anemones inhabiting the American crocodile *Crocodylus acutus*

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Ticks, leeches, and barnacles are among the various kinds of organisms recorded as epibionts on crocodiles (Huchzermeyer 2003; Cupul-Magaña et al. 2011). Although sea anemones have been reported to live on living organisms such as sponges, hermit crabs, and sea turtles (Caine 1986; Patzner 2004; González-Muñoz et al. 2012), no previous reports are known of sea anemones living on crocodiles. On 27 March 2013, an adult female of the American crocodile *Crocodylus acutus* (Cuvier, 1807) (236 cm total length, 125 cm snout-vent length) was captured in the Xtacum lagoon, south of Cozumel Island, Quintana Roo, Mexico (coordinates UTM: 16 Q 0502168–2242570, WGS84), in shallow water (0.3 m deep) separated ~120 m from the sea by a 7 m high sand dune and beach. Nine sea anemones were attached to its tail and the side of the abdomen (Fig. 1a, b). Specimens of the same species were observed on wooden posts of a small dock and on a submerged stump a few meters away from the capture site. Collected specimens were deposited in the Collection of Cnidarians of the Gulf of Mexico and Mexican Caribbean Sea (Registration code: YUC-CC-254-11) of the Unidad Multidisciplinaria de Docencia e Investigación, Universidad Nacional Autónoma de

México (UNAM) in Sisal. Because the collected sea anemones were initially fixed in ethanol 70 %, an appropriate identification could not be performed. However,



**Fig. 1** a Sea anemone individuals on a crocodile tail in situ (arrows), b oral view of a specimen in laboratory. Scale bars: 10 mm.

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these specimens do not belong to any actiniarian species previously reported from the locality (González-Muñoz et al. 2012) and this observation constitutes the first report of sea anemones as epibionts of crocodiles.

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## References

- Caine EA (1986) Carapace epibionts of nesting loggerhead sea turtles: Atlantic coast of U.S.A. *J Exp Mar Biol Ecol* 95:15–26
- Cupul-Magaña FG, Rubio-Delgado A, Escobedo-Galván AH, Reyes-Núñez C (2011) First report of the marine barnacles *Lepas anatifera* and *Chelonibia testudinaria* as epibionts on American crocodile (*Crocodylus acutus*). *Herpetol Notes* 4:213–214
- González-Muñoz RE, Simões N, Sánchez-Rodríguez J, Rodríguez E, Segura-Puertas L (2012) First inventory of sea anemones (Cnidaria: Actiniaria) of the Mexican Caribbean. *Zootaxa* 3556:1–38
- Huchzermeyer FW (2003) Crocodiles: biology, husbandry and diseases. CABI, Wallingford
- Patzner RA (2004) Associations with sea anemones in the Mediterranean Sea: a review. *Ophelia* 58(1):1–11