

Xenomias in *Crassostrea rhizophorae* (Ostreidae) from Camamu Bay, Bahia, Brazil

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(With 1 figure)

This paper reports the occurrence of xenomias in the mangrove oyster *Crassostrea rhizophorae* (Guilding, 1828) gills. Xenomias are formed when intracellular parasites accumulate within host cells, causing hypertrophy of the cell and its nucleus. In fish, the xenomias are commonly caused by microsporidians (Matos et al., 2003), but in the oyster *Crassostrea virginica* (Gmelin) they are caused by ciliates, genus *Sphenophrya* (Bower et al., 1994; Winstead et al., 2004; Scarpa et al., 2006). In Brazil, Nascimento et al. (1986) observed such organisms in *C. rhizophorae* from Todos os Santos Bay (Bahia), but these authors didn't make reference to xenoma formation. Thus, the present study is the first report of xenomias in *C. rhizophorae*. A total of 394 oysters were monthly collected between August 2006 and August 2007 in the Maraú Península estuary region (14° 06' 55"–13° 59' 92" S and 39° 02' 83"–38° 59' 92" W), Camamu Bay (Bahia, Brazil), on roots of the red mangrove *Rhizophora mangle* L. The oysters were measured

(dorso-ventral axis) and shucked. Meat fragments were kept in Davidson's fixative solution (Shaw and Battle, 1957) for 24–30 hours, and then transferred to 70% ethanol. The material was processed for histology, with paraffin embedding, production of 7 µm thick sections and staining with Harris hematoxylin and Eosin (HE). The sections were examined with light microscopy. The water temperature ranged from 23.5 to 30 °C and the salinity from 15 to 35. The height of the oysters ranged from 2.7 to 10.2 cm and the xenomias occurred in animals measuring between 4.3 to 5.5 cm. The prevalence of xenomias was 2.53% (10/394). As reported in *C. virginica* (Bower et al., 1994; Winstead et al., 2004; Scarpa et al., 2006), the xenomias of *C. rhizophorae* were, very probably, caused by ciliates, genus *Sphenophrya*. The xenomias were formed in the gills epithelium (Figure 1). According to Bower et al. (1994), single *Sphenophrya*-like ciliates can also be observed attached on palps and possibly on the mantle of oysters. Unlike what has been reported in *C. virginica* (Scarpa et al., 2006), no macroscopic evi-

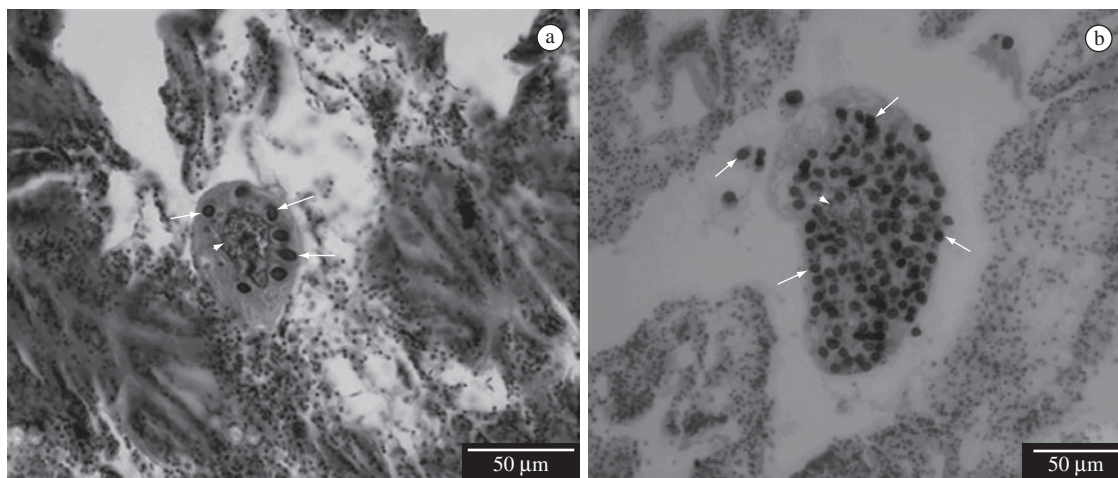


Figure 1. Xenomias in the gills of the mangrove oyster *Crassostrea rhizophorae*, a) in earlier and b) more advanced stage. Arrows = ciliates; arrowheads = nucleus of the host cell.

dence of xenomas was observed, and only 1-2 xenomas were observed per histological section. In *C. virginica*, Scarpa et al. (2006) observed densities mostly below 20 xenomas per histological section, but they reached as high as 173. With regard to prevalence, Nascimento et al. (1986) reported *Sphenophrya*-like in 2% of the oysters *C. rhizophorae* from Todos os Santos Bay (Bahia, Brazil), which is similar to the results found in this study (2.53%). In *C. virginica*, Winstead et al. (2004) estimated prevalence lower than 1% and Scarpa et al. (2006) observed values between 1 and 82%. According to Scarpa et al. (2006), the xenomas cause localized epithelial erosion and most likely impede water flow. Due to the low prevalence and intensity, we conclude that the xenomas are no threat to the oyster population in Camamu Bay so far.

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