First record of sea lice *Lepeophtheirus curtus* (Copepoda, Caligidae) in sea-farmed *Epinephelus marginatus* (Serranidae) in Brazil

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The family Caligidae, mainly *Caligus* and *Lepeophtheirus* species are widespread sea lice copepods that parasitize body surface, cavity of the mouth, the gills, and the operculum of teleosts and elasmobranchs (Ho et al., 2001). These parasites erode fishes epithelium leading secondary bacterial infections (Sanches et al., 2012). The sea lice of the family Caligidae are one of the most major health pathogens for farmed fish. In the Northern Hemisphere the salmon louse *Lepeophtheirus salmonis* (Krøyer, 1838) alone is responsible for commercial losses in excess of € 180 million in salmonid aquaculture (Costello, 2009).

The dusky grouper (*Epinephelus marginatus*) (Lowe, 1834) is a Serranidae protogynous hermaphrodite species with great ecological importance. It is being commercially cultured because the high market demand has led to indiscriminate fishing resulting in the depletion of the natural stocks to an alarming level (Sanches et al., 2009). Despite the considerable progress in fish parasitology in recent decades, there are still major gaps in knowledge of taxonomy, biology, epizootiology and parasites control (Roumbedakis et al., 2013). This study record the first occurrence of *Lepeophtheirus curtus* in dusky grouper farmed in Brazil.

Specimens of copepods were collected from twelve farmed *Ephinephelus marginatus* (wet weight 6.2 ± 0.2 kg) that were kept in concrete tanks, capacity 80 m^3, in a marine fish center, from Ilhabela, State of São Paulo, Brazil. After collection, the copepods were fixed and preserved in ethanol (70% GL), after were clarified with lactic acid for identification. The taxonomic determination of the parasites was in accordance with the diagnosis proposed by Wilson (1913) and Lewis (1964). Photographs were made with the use of the differential interference contrast microscope (DIC) Olympus® BX 51 coupled with a digital camera Olympus® UC 30 (Olympus, Center Valley, Pennsylvania). Measurements were made in millimeters (mm) and mean values are followed by range in parentheses. Voucher specimens of *L. curtus* Wilson, 1913 (two females) were deposited in the Carcinological Collection of the National Museum of Rio de Janeiro (MNRJ-24732).

The following measurements were made on the specimens of *L. curtus*, collected from *E. marginatus*: Female (based on six specimens) (Figure 1) Total length (including caudal rami), 4.06(3.96-4.12) mm. Cephalothorax, 2.54 (2.49-2.57) mm long, 2.52 (2.48-2.58) mm wide. Genital complex with lobate projections of posterior lateral faces, 0.68 (0.68-0.71) mm long, 1.32 (1.29-1.34) mm wide. Abdomen, 0.49 (0.48-0.51) mm long, 0.23 (0.22-0.23) mm wide. Caudal rami with longest seta measuring 0.29 (0.28-0.32) mm. Frontal lunulae absent. Male not collected. In relation of the identification of *L. curtus*, the presence of spines on the middle seta in the distal party of fourth leg can separate this species from the others of the genus (Figure 1).

On the coast of Brazil, *L. curtus* has previously been recorded in another serranid fish: *Mycteroperca bonaci* (Poey, 1860) in the littoral of Bahia and Espírito Santo (Luque et al., 1998), demonstrating the specificity of this sea lice for the fishes of the family Serranidae in the Atlantic Ocean. Recent discoveries of new species and genotypes emphasize the need for more basic research on louse taxonomy and host preferences (Costello, 2006).

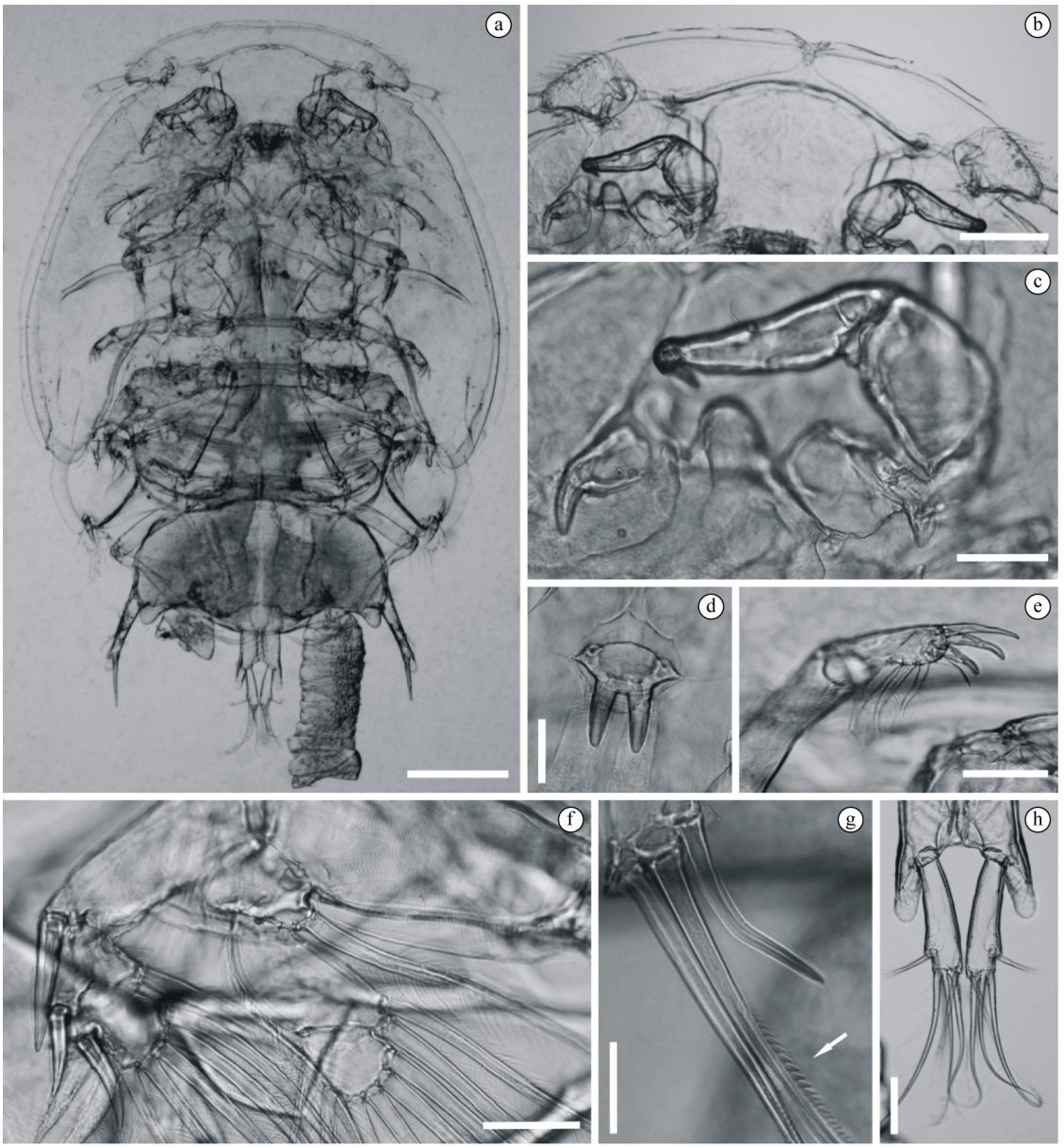

Figure 1. *Lepeophtheirus curtus* female. (a) Habitus: dorsal view; (b) Anterior part showing the absent of frontal lunulae; (c) Antenna; (d) Furca; (e) First leg: detail of distal segment; (f) Second leg; (g) Fourth leg: detail of spines in the middle seta of distal segment; (h) Detail of abdomen and caudal rami. Scale bars of Figure 1 (a), is 500 µm; all others are in 100µm.

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