

# First report of *Kudoa* species (Myxozoa: Kudoidae) infecting the spotted coral grouper *Plectropomus maculatus* from the Red Sea. A light and ultrastructural study

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## Abstract

In the present study, out of 200, 120 (60%) *Plectropomus maculatus* fish were found to be naturally infected with *Kudoa* sp. The infection was intensive and appeared as clusters of ovoid to ellipsoidal plasmodia being restricted to the cardiac muscles. More than 100 plasmodia were counted per infected heart and measured  $1.53 \pm 0.2$  (1.2-2.5)  $\times$   $0.65 \pm 0.2$  (0.63-0.80) mm. On the basis of spore morphology, the parasite was identified as *Kudoa* sp. The spore measures  $4.8 \pm 0.3$  (4.7-6.8)  $\times$   $.0 \pm 0.3$  (4.6-6.5)  $\mu$ m. The four polar capsules were pyriform in shape measuring  $1.4 \pm 0.2$  (1.3-3.5)  $\times$   $1.2 \pm 0.2$  (1.1-2.2)  $\mu$ m. Transmission electron microscopy showed that the plasmodia were bordered by a single membrane which invaginates into pinocytotic canals. Adjacent to the plasmodial wall, the generative cells and the early pansporoblasts were located peripherally. The developmental stages characterizing sporogenesis, capsulogenesis, and valvogenesis of the present parasites were ultrastructurally studied.

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