

Supplementary Materials

Mechanical Properties, Tissue Structure, and Elemental Composition of the Walking Leg Tips of Coconut Crabs

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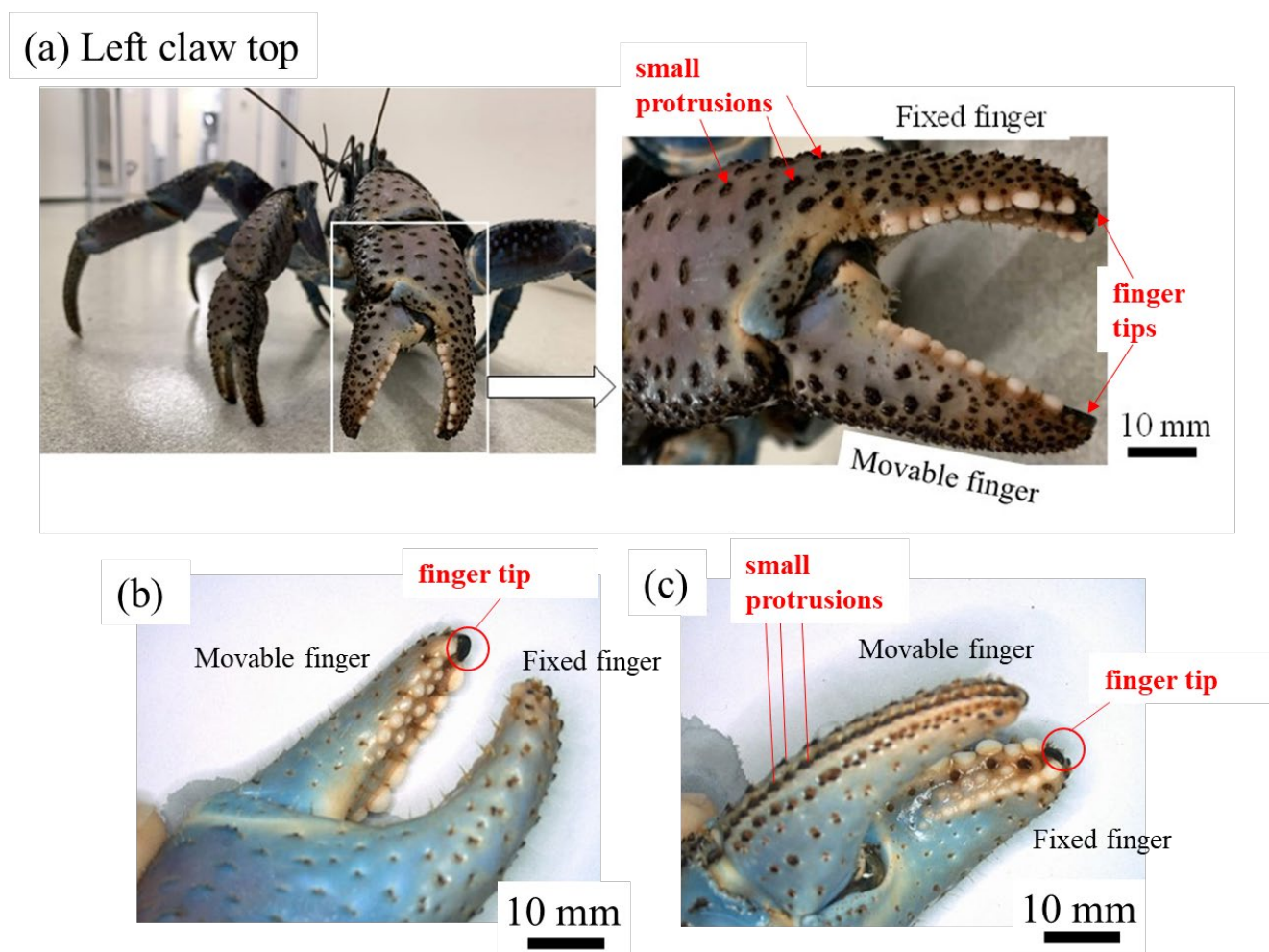


Figure S1. (a) Left claw of the coconut crab (sample A: body weight: 1070 g). Claw tip (body weight: 340 g); (b) back; and (c) movable finger side of the other coconut crab.

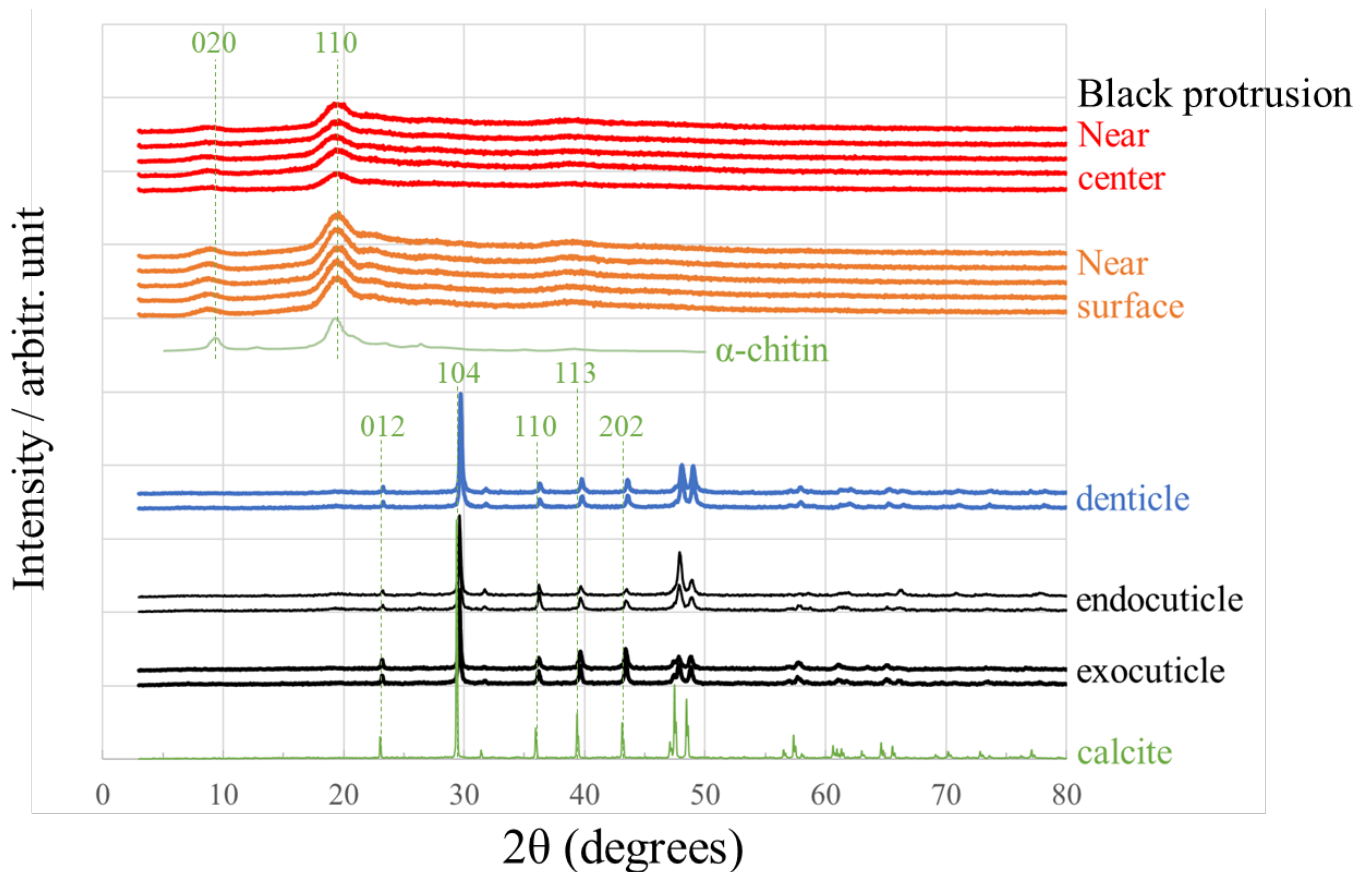


Figure S2. X-ray diffraction (XRD) patterns of the black protrusion (near the center and near the surface) of the right second walking leg tip of the male coconut crab (body weight (BW) 1,070 g and thoracic length (ThL) 62 mm), including X-ray diffraction of the α -chitin powders (Reference [31] in main text) and the exocuticle, endocuticle, and denticle of the claw of the male coconut crab (BW: 610 g; ThL: 44.5 mm), including the standard XRD of the calcite crystal (wako; FUJIFILM Wako Pure Chemical Corp., Osaka, Japan) (Reference [19] in main text). Here, XRD analysis was performed using a commercial X-ray diffractometer (SmartLab; Rigaku Co. Ltd., Tokyo, Japan).

[31] in main text: Zhang, Y.; Jiang, J.; Liu, L.; Zheng, K.; Yu, S.; Fan, Y. Preparation, assessment, and comparison of α -chitin nano-fiber films with different surface charges. *Nanoscale Res. Lett.* **2015**, *10*, 226. <https://doi.org/10.1186/s11671-015-0926-z>

[19] in main text: Inoue, T.; Oka, S.; Nakazato, K.; Hara, T. Columnar structure of claw denticles in the coconut crab, *Birgus latro*. *Minerals* **2022**, *12*, 274. <https://doi.org/10.3390/min12020274>