

# Active Tactile Sensing of Small Insect Force by a Soft Microfinger toward Microfinger-Insect Interactions

Satoshi Konishi<sup>1,2,3,4\*</sup>, Fuminari Mori<sup>2</sup>, Yugo Kakehi<sup>2</sup>, Ayano Shimizu<sup>2</sup>, Fumiya Sano<sup>2</sup>, Kodai Koyanagi<sup>2</sup>

<sup>1</sup>Department of Mechanical Engineering, College of Science and Engineering, Ritsumeikan University, Kusatsu, 525-8577, Japan

<sup>2</sup> Graduate Course of Science and Engineering, Ritsumeikan University, Kusatsu, 525-8577, Japan

<sup>3</sup> Ritsumeikan Advanced Research Academy, Kyoto 604-8520, Japan

<sup>4</sup> Ritsumeikan Global Innovation Research Organization, Kyoto 604-8520, Japan

\*konishi@se.ritsumei.ac.jp

## Supplementary Movie Legend

**Movie S1.** Leg force measurement of a pill bug through active sensing by a microfinger. The pill bug was immobilized by vacuum tweezer device with a suction pump. The attitude angle of a pill bug was adjusted for the optimum state for interaction between legs.

**Movie S2.** Abdominal force measurement of a pill bug through active sensing by a microfinger. The attitude angle of a pill bug was adjusted for the optimum interaction between a body.