Body temperature profile during foraging activity of *Polybia* (Trychothorax) *ignobilis* Halliday, 1836 (INSECTA, HYMENOPTERA).

Denis V. Andrade[1,2], , Ivan C. Desuó[1], André S. N. Murakami[1], Paula Tsuyama[1], Sulene N. Shima[1], and Guilherme Gomes[1].
[1]Dept. Zoologia, IB, Universidade Estadual Paulista (UNESP), Rio Claro, SP, Brasil. [2] INCT-FisC.

Thermoregulation is essential to optimize physiological processes. In flying insects, which need to maintain an optimum temperature to sustain the high frequency of muscle contractions, the thorax is characterized by higher rates of heat production as compared to the colder and less active abdomen. Furthermore, rates of heat exchange can be influenced by behavioral activity and environmental conditions. Herein, we examined the body temperature profile of the swarming-founding wasp *Polybia ignobilis* during its foraging activity at different periods of the day. Body surface temperatures were recorded in different body regions (head, mesosoma [thorax], metasoma [abdomen], and wing) of 277 individuals using the FLIR SC640 infrared camera during the following activities: pre-flight, flight, post-flight. When same body regions were compared, independently of the period of the day and behavior, temperatures varied significantly. Moreover, within the same behavioral category the temperatures sampled in different body regions were also significantly different. Therefore, our results clearly shows that body temperature profile in *P. ignobilis* is influenced by the rates of heat production and exchange which, in turn, are dictated by the activity level of different body regions, by the time of the day, and by the behavioral activity being performed.

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