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CHEMICAL ECOLOGY OF THE COCONUT MOTH, *ATHELOCA BONDARI* HEINRICH, 1956 (LEPIDOPTERA: PYRALIDAE)

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ABSTRACT: *Cocos nucifera* is grown in all regions of Brazil, being predominant in the northeast and is of socio-economic importance for the country. In addition to be a great economic income, *C. nucifera* is used as a resource by several insects, which affects its growth and causes economic losses to producers. Among these insects, the coconut moth *Atheloca bondari* (Lepidoptera: Pyralidae) presents a great importance in the culture. This research aimed to study the chemical ecology of the coconut moth. Female genitalia and the whole body of males and females were extracted with hexane. The extracts were analyzed by gas chromatography coupled to mass spectrometry (GC-MS) and gas chromatography coupled to flame ionization detector. When available, synthetic compounds were used to confirm the identity and to be tested in the adults antennae. Some synthetic compounds that were not identified at the extracts, but are known from pheromones of other Pyralidae species, were tested in the adults antennae. The responses of the antennae of adult males and females to the extracts and synthetic compounds were tested by means of electroantennography (EAG) and gas chromatography coupled to electroantennography detector (GC-EAD). It was possible to identify 23 compounds present in the female genitalia and 39 compounds present in the male and female cuticle by GC-MS. Female genitalia extracts were mainly characterized by fatty acids and alkanes and cuticular extracts were mainly characterized by linear and branched alkanes. EAG studies revealed that male antennae respond to the female cuticular extracts and to the female genitalia extracts. GC-EAD revealed that the male and female antennae are active to three compounds (Z9-14:OAc, Z9-14:Ald and Z9-16:OH) known from pheromone of other Phycitinae species. In addition to these compounds, three not yet identified compounds elicited responses from the adults antennae of *A. bondari*.