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FLORAL BIOLOGY, POLLINATION REQUIREMENTS AND VISITORS OF THE BRAZIL NUT TREE (*Bertholletia excelsa* Bonpl., LECYTHIDACEAE) IN TOME-ASSU – PA

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The Brazil-nut tree (*Bertholletia excelsa* Bonpl., Lecythidaceae) is considered a symbol of the Amazon region due to the importance of its nuts to the extractive communities, traded in domestic and international markets. In cultivated areas, the Brazil nut has shown an excellent performance, but still requires studies on floral biology and pollination. Thus, the pollination biology was investigated from October to December of 2010 and 2011, with the aid of scaffolding towers (12-20m high) at the Sasahara Farm (S02 33 39.3 W048 21 20.4) in Tome-Assu, PA, an agroforestry system where the Brazil nut is the main component. The anthesis and duration of flowering, stigma receptivity, pollen viability, behavior and identification of floral visitors were characterized, and controlled pollination tests were applied in protected flowers: spontaneous self-pollination (AE, n=540/1.672); induced self-pollination (AI, n=657/1.566); cross-pollination (XE, n=880/1.716) and geitonogamy (GE, n=742/1.443). As control, flowers were exposed to free pollination (PL, n= 564/2.343), data from 2010/2011, respectively. Flowering occurred from October/2011 to January/2012, with a peak between November and December/2011. The anthesis varied between trees from 01:00h to 05:30h. The stigma was receptive from 07:00 to 11:00h, coinciding with the period of pollen release and viability (06:30 to 11:00h). We recorded initial formation of 29 fruits in 2010, nine by AE (1.6%), seven by AI (1.06%); ten by XE (1.13%), two by GE (0.3%) and one by PL (0.2%). In 2011, only two fruits, one by XE (0.058%), and one by PL (0.042%). As flowers visitors (not all are pollinators), were collected 64 insects of the orders: Hymenoptera (*Eulaema meriana*, *Xylocopa frontalis*, *X. aurulenta*, *Apis mellifera*, *Trigonasp.*, *Bombus transversalis* and wasps), Hemiptera (Pentatomidae) and Coleoptera (Staphilinidae and Chrysomelidae). The main pollinator was *Xylocopa frontalis*. The low fruit-set in 2011 may be related to heavy rainfall recorded in that year.

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