Ref.: Mirella Baldacconi Gondeck 40781-1

1st RUFFORD FOUNDATION SMALL GRANT - Report III

Six hundred and forty-two butterflies were registered using baited traps at the twelve areas sampled for the first time on the Santa Catarina Island, Santa Catarina State in south Brazil, during 90 fieldwork days. From these, 244 specimens belong to the Glass wing butterfly species *Ithomia drymo* and represent the most abundant tribe recorded (Danainae: Ithomini). A total of forty-six butterfly species were registered and their identifications are being confirmed by a specialist.

The Ithomini tribe can be caught in bait traps (usually by accident) but the number registered in our work is not commonly recorded. For this reason, we will have to analyse data further with the possibility of experimenting with traps on the field again in the coming summer to have a better understanding of our results. For the present report, we are counting all butterflies registered in our traps, including the Ithomini.

The second most abundant tribe was the Ageroniini (Biblidinae), with the occurrence of 51 individuals of *Hamadryas epinome* followed by *Myscelia orsis* (45 records, Biblidinae: Epicaliini). The Zebra butterfly (*Colobura dirce*, Nymphalinae: Coeini) and the Blue Morpho (*Morpho helenor*, Satyrinae: Morphini) had 35 specimens registered each.

Butterfly abundance between the twelve Sampling Stations varied from 81 (C1) to 15 individuals (S3). Richness among Sampling Stations varied from 7 (N3) to 20 (S2) species. Shannon diversity ranged from 2,4 (N3) to 12,6 (S1) and Simpson from 1,9 (C2) to 10,1 (S4). Twelve species were singletons. Edge and Forest Interior Sample Units shared a total of twenty-four species; Edges registered 39 species and Forest Interior 31. Map with Sampling Stations can be found on Image 01.

So far, our results seem to indicate that butterflies are abundant and well distributed along Santa Catarina Island, and it appears to be a good connectivity among its forests remnants. The southern region stands out, highlighting it might be better-preserved or a pointing to a possible species' source coming from the continent.

Continuing our research, we now need to evaluate the relation between butterfly diversity, environmental and geographical data. For this, we will use the temperature registered locally at each Sample Unit during fieldwork, study vegetation components and landscape metrics at each one of the twelve areas sampled. Field

work for the vegetation characterization should start in early December and go through the beginning of 2025, involving Biological Science undergraduate students.

With our work and results The Municipal Environmental Foundation has shown interest for having a butterfly house set at the Natural Municipal Monument of the Peri Lagoon, the oldest Protected Area on the island and also home for their head office. The Peri Park receives hundreds of visitors every month, and would be the ideal place to have a butterfly house, aiming to approach the public and open the opportunity for dialogs regarding conservation, ecology and environmental education. We could also set a regular butterfly monitoring program, including public participation.

Also, we have been working on the first ideas of a layout for the Santa Catarina Island Fruit-feeding Butterfly Guide, and we are happy to share it as seen on Image 02. All participating institution's logos will still be added for the final document version.

Early this month the Terrestrial Animal Ecology Lab participated on the 21st Teaching, Extension, Research and Innovation Week at the Federal University of Santa Catarina. On this occasion we talked to visitors of different ages and backgrounds about the life cycle of beetles and butterflies, the importance of these organisms for the balance of the environment and our relationship with them as a society. It was gratifying to see the public's enthusiasm and curiosity in contact with live caterpillars and pupae while having a chance to talk to them about our projects (Image 03).

Image 01: Map of the Santa Catarina Island, showing the location of the twelve Sampling Stations where fruit-feeding butterflies were sampled with baited traps from January to May 2024.

Image 02: Santa Catarina Island Fruit-feeding Butterfly Guide – first layout idea presented to The Municipal Environmental Foundation, containing images of butterflies, their occurrence on the municipal Protected Areas and ecological information.

Image 03: Attending the public at The Terrestrial Animal Ecology Lab stand during the 21st Teaching, Extension, Research and Innovation Week at the Federal University of Santa Catarina.