

Appendix 1

Impacts of Brazil's Research Program on Biodiversity (PPBio - *Programa de Pesquisa em Biodiversidade*)

The outcomes of PPBio go beyond the hundreds of scientific articles published in impact journals, which provide visibility to the Brazilian Science. The program subsidizes the public policies for conservation in the country with the planet's greatest biodiversity, distributed in diverse and complex biomes, namely the Cerrado, Amazonia, Atlantic Forest, Pantanal, Caatinga and Pampa and, in addition, diverse coastal zones. Cerrado and Atlantic forest are Biodiversity hotspots (Myers et al., 2000), and a number of classifications recognize the global importance of several of the Brazilian biomes (Brooks et al., 2006; Overbeck et al., 2015). PPBio also develops a strategic role in the integration of different training programs for qualified human resources, and at different levels of training. The number of graduate programs involved and the number of trained masters and doctors is extraordinary. In addition, the program involves the training of undergraduate students in the knowledge of Brazilian biodiversity. The production of patents, the interaction with the community of the areas studied and the scientific dissemination are examples of the potential already developed in all the areas where PPBio has acted. The number of people directly benefited by the Program exceeds the academic walls, and includes from residents of communities in the interior of Amazonia to elementary and middle school students in the capitals and in the interior (e.g. itinerant museums, booklets, field biota guides).

The program also develops partnerships with the productive sector, through the development of protocols for environmental impact studies and monitoring of biodiversity, and with international networks (e.g. the Amazonian Network of Forest Inventories - RAINFOR, Amazon Tree Diversity Network - ATDN and the Global Ecosystem Monitoring Network - GEM / Oxford).

The increase in the scientific collections of the many institutions involved allowed the description of a total of 769 new species in the past 10 years, demonstrating the still incipient knowledge of Brazilian biodiversity even in densely sampled areas such as the Atlantic Forest. The lack of support, with the reduction of resources for science, will prevent the continuity of sampling in areas with large sampling gaps, such as in the Brazilian Amazonia, the Cerrado and the semiarid Caatinga. Reduction of research activities will have immediate consequences on the involvement of students at all levels, and thus on the training on Brazil's next generation of field

botanists, zoologists and ecologists, apart from the severe impacts on a broad variety of environmental issues. The severe reduction of resources also impedes advances in new areas of sciences, such as the understanding of the role of mycobiota in Brazil's biomes, and all applications e.g. in biotechnology and pharmaceutical industry.

References:

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Brooks T.M., Mittermeier, R.A., Fonseca, G.A.B., et al., 2006. Global Biodiversity Conservation Priorities. *Science* 313, 58-61. DOI: 10.1126/science.1127609

Overbeck, G.E., Velez-Martin, E., Scarano, F.R., et al., 2015. Conservation in Brazil needs to include non-forest ecosystems. *Div. & Distr.* 21, 1455-1460. DOI: 10.1111/ddi.12380.