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P38. More than twenty years of orchid *ex situ* conservation in Africa and Madagascar

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Orchid conservation represents a significant challenge in Tropical Africa and Madagascar, areas in which habitats are facing increasing pressure from agriculture, mining and logging activities. In these regions, a large part of the epiphyte flora is composed of orchids, most of which, when lacking flowers when encountered in the field, are impossible to identify. However, accurate identification is essential for developing conservation strategies since about 69% of tropical African and Malagasy orchids are potentially threatened. To overcome this identification problem, a shadehouse cultivation system was developed in São Tomé in 1997 and has now been extended across Continental Africa and Madagascar, providing a powerful tool for conducting thorough orchid inventories since most epiphytes can easily be brought into cultivation and grown to produce fertile, identifiable material. The network currently counts 12 shadehouses in six countries and, to date, 32,013 living orchids collected in the field have been grown, representing about 500 species, from which > 23,764 herbarium specimens have been collected, most associated with silica gel-preserved material and photos. This material has been used to describe 41 previously unknown species and to assess the conservation status of hundreds of species in three key areas (West Africa, Central Africa and Madagascar), while also leading to the publication of 44 articles in taxonomy, phylogeny, floristics and for the general public. Initially designed to facilitate orchid inventory and identification, the shadehouses now contribute to orchid conservation by protecting plants in safe, controlled conditions, producing material for seeds banking. They also offer valuable training opportunities for young botanists, thereby contributing to in-country capacity building. Key factors that explain the success of this shadehouse network and its long-term survival are the support provided by reliable local partners, the involvement of young botanists and students, and the development of new techniques to grow thousands of living orchids successfully and cost-effectively.

Keywords: Orchidaceae, epiphyte, Africa, Madagascar, *ex situ* conservation, shade house