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Title Knowledge base on coral Systematics of the Mascarene archipelago :
presentation of the results

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Abstract In the process of monitoring, managing and conserving biodiversity, some biologists have become experts and have developed a unique know-how to produce species inventories. These experts are not simply living encyclopedias to be found in Museums, but also individuals with first hand experience, educated intuitions and reasoning powers applicable to decision making (naming, classifying, identifying a specimen) in particular domains of knowledge.

But expertise in Systematics is at a turning point: it is becoming rare. For future biodiversity studies relying on species identification, environmental officers and researchers will only be left with monographic descriptions and collections in museums.

This is the reason why a knowledge base on the zooxanthellate scleractinian corals of the Mascarene Archipelago is being developed. Based on the Gerard Faure's collection of approximately 4000 specimens (13 families) collected in the Mascarene Archipelago, this project relies on two online computer-based applications and a web site.

The web site offers an easy-to-use, worldwide, bilingual (English and French) interface to access the results. One part of the site is dedicated to the *Scleractinia* facts (biology, ecology, conservation, etc), another is dedicated to the taxonomic aspects and proposes online identification tools.

The first identification tool, called Xper² and developed by the LIS (Informatic and Systematics Laboratory) in Paris, is used for the identifications from the order to the genera. The second identification tool, named IKBS (Iterative Knowledge Base System) and developed by the IREMIA (Institute for Research in Applied Mathematics and Computer Science) in La Réunion, is used for the identifications from families to species.

During the two preceding phases of the project, 4 Scleractinian families (*Pocilloporidae*, *Siderastreidae*, *Fungiidae*, *Astrocoeniidae*) have been processed. The present (third) phase will deal with 3 additional families (*Faviidae*, *Acroporidae*, *Mussidae*).

This talk presents our results for the current step (2004-2007) and will compare our tools to other existing identification tools.