

THE BIODIVERSITY STUDY ON THE COMORO ARCHIPELAGO

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Island faunas are particularly useful as subjects for the study of adaptation. The ecosystems are relatively simple and therefore ideal to study principles that govern biodiversity. But for evaluating global change, biodiversity cannot be a mere counting of number of different species : the interpretation involves microevolution on the morphological and the population scale.

Biodiversity of tropical islands is a result of two interactions : (1) long term stability allowing specialisation and speciation of endemics, and (2) changes favouring non-specialised forms, mostly newly arrived invaders, some simply eliminating the less flexible specialists. One could readily imagine a situation where endemics (indicating stability) are still present but declining while new arrivers (generalists) are 'taking over'. In this respect, islands are possibly good indicators for global change, because one can bias the effects of local changes by comparing and combining equivalent data for different islands. Moreover, working with populations is less complicated because in (smaller) islands these are well delimited geographically.

The Comoro islands form a good location for such a natural experiment. Their particular zoogeographical position allowed colonisation from both sides (Africa and Madagascar). Their rather limited size, their diversity (4 islands equidistant and in the same size range), their wet climate and high elevation give sufficient altitudinal range and different habitats. While presenting a sufficiently stable climate and ecology, they still remain in a relatively pristine state.

The present research subject 'Evolution and ecology of endemic vertebrates on the Comoro islands', including the three islands of the independent Republic and the french island of Mayotte (and related archipelagos for comparison : the Aldabra group, the Mascarenes, Madagascar) was started in 1981 and uses birds and reptiles as models.

References

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