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Parasite infection and immunogenetic adaptation in a cichlid radiation

Pascal Hablützel*

**Flanders Marine Institute, Ostend, Belgium*
E-mail: pascal.hablutzel@vliz.be

In the last two decades, it became clear that evolutionary divergence has a strong ecological component. How ecological factors contribute to evolutionary divergence at historical or contemporary time scales is therefore a key question in evolutionary biology. Parasites represent a strong ecological pressure, which is predominant in all animals. Since parasites influence survival and reproduction, they can also influence adaptation, reproductive isolation and ultimately perhaps even speciation of their host. Whether or not parasites induce local immunogenetic adaptation and hence divergence of their host across landscape, depends on how parasite communities respond to environmental and biogeographic variation, and the strength of host-parasite co-evolution. Interestingly, adaptive divergence causing shifts in diet, habitat use or behaviour might directly relate to shifts in parasite infection. We discuss whether this ecological differentiation significantly contributed to the morphological and genetic diversity found in Lake Tanganyika cichlids today.