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## Microbial life on waste: fungal communities on plastic debris from dumpsites in East Africa

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The plastic waste input into terrestrial ecosystems is a serious and ongoing problem, particularly in developing countries due to deficient or non-existent recycling management. A so-called 'plastic ban' has been proclaimed in Kenya in 2017. Despite the ban, waste of all kinds of plastics, mainly polyethylene (PE) still exists at large amounts, particularly in the municipal environment of the country, where plastic solid waste (PSW) permeates the upper layers of the soil. Microorganisms are the key players in the decomposition of (polymeric) materials. Landfills (dumpsites) are designated hot spots of environmental pollution with plastics. Therefore, landfills and plastic-contaminated sites in the town of Siaya (Western Kenya) are considered suitable locations to discover with a high probability so-called soil-borne, 'plasticophilic' microorganisms. Since microfungus diversity in these regions is virtually unknown, a high-throughput method was applied to obtain a first overview on potential fungal plastic degraders and the composition of their respective communities. The focus of the screening was laid on the distinction between directly plastic-associated and generally soil-dwelling fungi. In other words, it was the aim to characterise via community barcoding associations of specifically plastic-colonizing species or OTUs in comparative analyses of both substrates, i.e. bulk soil and (macro)plastic. Ultimately, the aim of this study was to identify those 'key species' that contribute most to  $\beta$ -diversity, by far-reaching adaptations to this anthropogenic trophic niche. Eventually, this investigation marks an initiation point to a comprehensive screening in equatorial Africa for the isolation of fungi capable of plastic biodegradation.