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## Coffee Leaf Rust (*Hemileia vastatrix*) in the Wild Coffee Population (*Coffea arabica*) of Ethiopia

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### Abstract

Coffee (*Coffea arabica*) as a qualified beverage with a great demand in many countries and coffee leaf rust (*Hemileia vastatrix*) as a quarantine pathogen causing high losses have attracted world-wide high attention. Ethiopia as the source of origin for perhaps both, the host and pathogen, plays an important role in science either for breeders or pathologists. Coffee leaf rust occurs in Ethiopia in nearly all areas and under all growing systems like wild, forest, garden and plantation coffee not following a certain altitude preference as in Kenya. Disease assessments could be carried out during 2003 and 2006 in the four different rainforest areas Haremma (Bale Mountains), Bonga, Berhane-Kontir and Yayu of Ethiopia. The disease occurred in all forest sites with varying intensities during the season. After collecting uredinospores in the field morphological characteristics were studied and all samples could be identified as *H. vastatrix* (Ritschel 2005). Finally race specification could be carried out with the necessary differentials in the Center of Coffee Leaf Rust (CIFC) at Oeiras/Portugal. The proof of races II (v5), III (v1,5) and X (v1,4,5) was stated by Varzea (pers. comm.) for wild coffee in the rainforests at Bonga and Berhane-Kontir.

But so far the disease did not influence the production seriously. Several reasons could be responsible for that situation: First of all, since fungicides were never used, the hyperparasite *Verticillium hemileiae* occurs quite frequently and is able to reduce the inoculum under a certain threshold. Secondly the race spectrum might exist of less aggressive races. Race specification will be investigated during a second phase of the project CoCE supported by BMBF and co-ordinated by the Center for Development Research (ZEF), Bonn University.

For further genetical, morphological and phytopathological investigations on the host and pathogen the last ecosystems of rainforest/wild coffee in Ethiopia urgently need to be protected. With international help there exists a strong effort to develop an agrosystem which preserves the natural rainforest including the wild coffee, but allows people to share the benefits of products in that habitat like coffee, spices and fruits.

**Keywords:** Coffee, Ethiopia, *Hemileia vastatrix*, leaf rust