***Trypanosoma carassii*, a model for whole host interaction studies.**

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Trypanosoma carassii is a freshwater fish parasite that infects a variety of cyprinids (carp family). The prevalence approaches 100% in densely populated fish farms. Here, the procedures for long term culture and transgenesis of *T. carassii* are described as the first step in developing a model to study host-pathogen interaction in zebrafish. We show that *T. carassii* can be genetically modified using approaches developed in *T. brucei* and these have been used to make *T. carassii* cell lines expressing mNeonGreen and Ruby fluorescent protein transgenes driven by either RNA pol II, RNA pol I and T7 polymerase. These cell lines have been used to infect transparent zebrafish larvae, facilitating the tracking of all trypanosomes infecting a host. The infection in zebrafish larvae has been followed by fluorescence quantification and the distribution by fluorescence microscopy over the course of an infection.