Anthelmintic screening of five palmatilobae species used in traditional medicine in Katanga Province (DR Congo)

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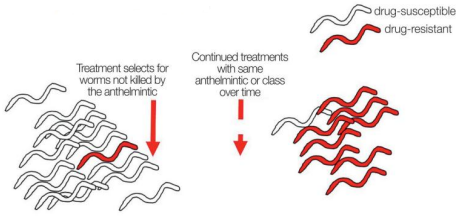
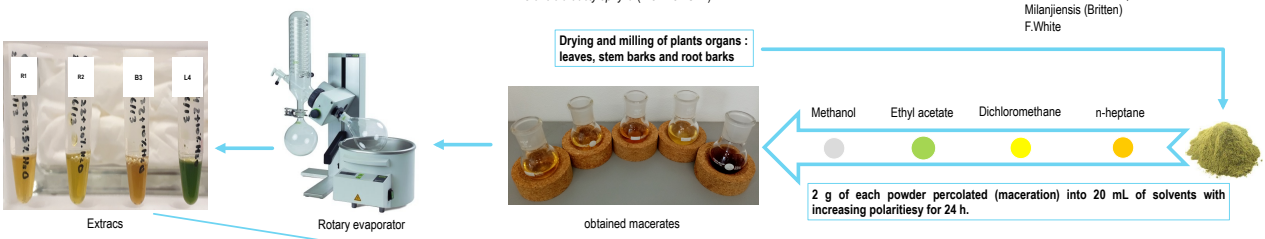
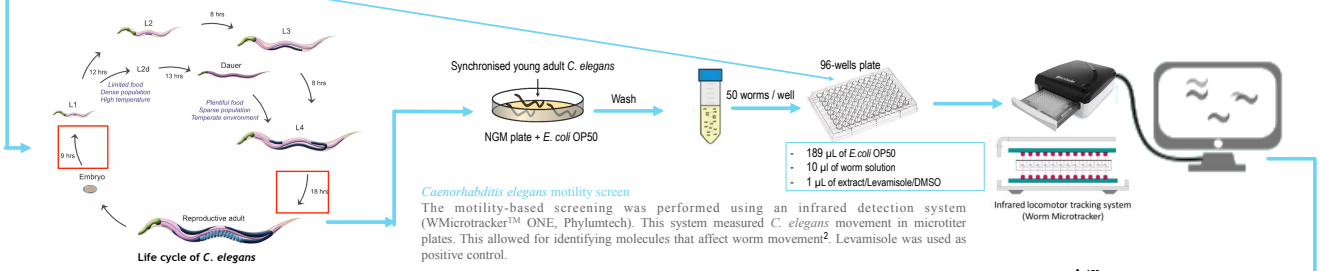
Introduction

Background: Resistance to known anthelmintics has become a growing concern[1]. Based on 2017–2019 ethnomedical and ethnoveterinary surveys carried out in Katanga Province, several species of shrub locally identified as *Vitex* species (Lamiaceae) are used to treat animal helminthiases.
Aim of the study: In this study, 4 *Vitex* species (including different morphotypes) and *Oldfieldia dactylophylla* (Welw. ex Oliv.) (Picrodendraceae; locally misidentified as *Vitex congolensis* De Wild and T. Durand) were selected for *in vitro* screening in order to search for new anthelmintic lead compounds.



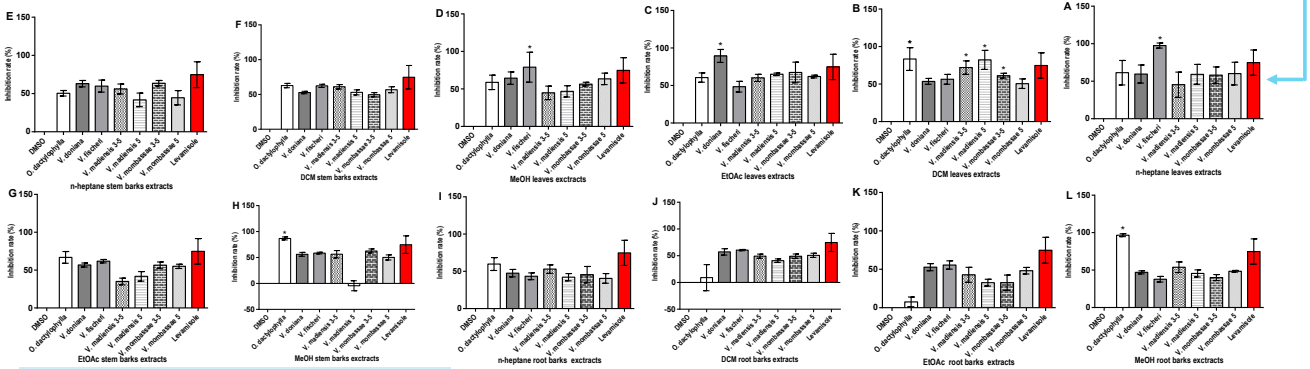

Oldfieldia dactylophylla (Welw. ex Oliv.) | *Vitex doniana* Sweet | *Vitex fischeri* Gürke | *Vitex madiensis* subsp. Milanjiensis (Britten) F.White | *Vitex mombassae* Vatke





Caenorhabditis elegans motility screen

The motility-based screening was performed using an infrared detection system (WMicrotracker™ ONE, Phylumtech). This system measured *C. elegans* movement in microtiter plates. This allowed for identifying molecules that affect worm movement[2]. Levamisole was used as positive control.



Conclusion and perspectives

We provide scientific support for the traditional use of 4 *Vitex* species and *Oldfieldia dactylophylla* in traditional medicine in Katanga province for treating intestinal parasites in veterinary practice. Anthelmintic screening study showed that 9/84 tested extracts are significantly active on *Caenorhabditis elegans*. The motility inhibitions measured on the N2 wild-type *C. elegans* model call for further studies to develop compounds or standardized extracts as possible treatments for parasitic worm infections.

References

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