

Anthelmintic plants in Guinea Conakry: A systematic review of challenges and perspectives for public health

^{1*}ASSOU Kai Sidoine-Eudoxie, ²AGNIWO Privat, ¹AKOTEGNON A. Rodrigue, ³DASSOU G. Hospice, ⁴ASSOU A. Cendra, ¹SANGARE Ousmane, ¹THIERNO Millimono, ¹KABA Ibrahima, ⁵KONATÉ Daouda, ¹BAH Fatoumata, ⁶KOUKOU Omédine

¹Laboratoire de Sciences Alimentaires et Nutritionnelles ; Département des Sciences Alimentaires et Nutritionnelles, Ecole Supérieure du Tourisme et d'Hôtellerie, Guinée Conakry

²Centre de Recherche pour la lutte contre les Maladies Infectieuses Tropicales, Université d'Abomey-Calavi, Bénin

³Herbier National du Bénin, Université d'Abomey-Calavi, Bénin

⁴Laboratoire de Biologie Appliquée, École Polytechnique d'Abomey-Calavi, Université d'Abomey-Calavi, Bénin

⁵Laboratoire de Technologie, de Contrôle des Produits Alimentaires, Institut Supérieur des Sciences de Médecine Vétérinaire de Dalaba, Guinée Conakry

⁶Laboratoire de Biologie Expérimentale et Clinique, Ecole Nationale Supérieure des Biosciences et Biotechnologie Appliquées de Dassa-Zoumé, Université Nationale des Sciences, Technologies, Ingénierie et Mathématiques d'Abomey, Bénin

*Corresponding author: Email: sidoineeudoxie@gmail.com

Keywords: helminthiasis, ethnomedicine, anthelmintic plants, research, Guinea-Conakry.

Submitted 05/05/2025, Published online on 30th September 2025 in the [Journal of Animal and Plant Sciences \(J. Anim. Plant Sci.\) ISSN 2071 – 7024](#)

1 ABSTRACT

In the Republic of Guinea-Conakry, helminthiasis remain the third leading cause of morbidity and medical consultations, despite widespread antiparasitic campaigns. In response to this challenge, numerous studies have documented natural plant-based solutions for treating helminth infections. Unfortunately, over the past three decades, little research has been conducted on the anthelmintic potential of plants in the country. This study compiles data on the prevalence of helminth infections, traditional medicinal plants, their chemical composition, and pharmacological properties from 1989 to 2024, with the aim of supporting the development of effective management strategies. The documents and articles were sourced from local libraries, PubMed, Scopus, Web of Science, and Google Scholar. The results show that 16 major helminths affect various groups, with children, pregnant women, and people living in poor sanitary conditions being the most vulnerable. The most common species are *Ascaris lumbricoides*, *Schistosoma mansoni*, and *Ancylostoma duodenale*, with prevalence rates reaching 82% in children in certain regions. Global ethnobotanical research has identified 38 anthelmintic plant species from 25 botanical families, with leaves being the most used part (56%). Phytochemical analyses reveal 19 bioactive compounds, such as flavonoids (20%), alkaloids, tannins, terpenes, and saponins, which contribute to the therapeutic efficacy of the plants. Pharmacological studies highlight the significant antiparasitic effects of plant extracts, including *Spondias mombin*, *Allium cepa*, and *Annona muricata*, against gastrointestinal nematodes such as *Haemonchus* spp. and *Strongyloides* spp. However, in Guinea, only three plants (*Azadirachta indica*, *Cucumis melo*, *Aframomum melegueta*) are documented and used for the treatment of helminths. These findings emphasize the vital role of medicinal plants in combating helminth infections and advocate for continued pharmacological research to enhance their therapeutic applications, particularly in Guinea-Conakry.