

 **Title: Antidiarrheal coumarins from *Psydrax schimperianus* (A. Rich.) Bridson roots**

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**Abstract:**

*Psydrax schimperianus* (A. Rich.) Bridson. roots are used to treat diarrhea in the West Arsi zone, Ethiopia. This study aimed to investigate the in vivo antidiarrheal activity of crude extract and coumarins isolated from the roots of *P. schimperianus* to provide a pharmacological basis for its traditional use as an antidiarrheal agent in Ethiopia. The crude root extract of *P. schimperianus* was tested in vivo for antidiarrheal efficacy in mice utilizing castor oil-induced diarrhea, gastrointestinal transit time, and enteropooling models at doses of 100, 200, and 400 mg/kg. Phytochemical investigation of the crude root extract led to the isolation of two coumarins, isoscopoletin, and scoparone. Isoscopoletin and scoparone were evaluated for antidiarrheal activity against castor oil-induced diarrhea model at 10 mg/kg and 20 mg/kg doses. The crude root extract of *P. schimperianus*, at doses of 100, 200, and 400 mg/kg, inhibited defecation by 37.5%, 46.2%, and 61.2%, respectively. At a dose of 20 mg/kg, scoparone and isoscopoletin reduced defecation by 61.2% and 66.6%, respectively. The study warrants further investigation of isoscopoletin and scoparone towards development as a novel treatment for diarrheal diseases.

**Keywords:**Coumarins; Diarrhea; Isoscopoletin; *Psydrax schimperianus*; Scoparone; Traditional medicine.

Graphical Abstract



**Biography of presenting author**

Getahun D. Regasa is a young and passionate Pharmacist and Pharmacognosist. He is a registered Pharmacist, lecturer, researcher, and volunteer in the field of natural products. He was awarded a **Gold medal** prepared for outstanding students from the College of Health Science, Mizan-Tepi University, and a **Cup Award** by the Ethiopian Pharmacy Association (EPA) in July 2018*.*  He has dedicated his career to advancing in Natural products and traditional medicine research. Currently, Getahun is serving as a lecturer of pharmacognosy at the College of Health Science at Salale University and also as a volunteer staff at the Traditional Medicine Desk, Pharmaceutical, and Medical Equipment Lead executive office, Ministry of Health, Ethiopia. Getahun is the author of two articles that are published in reputable scientific journals. As a presenter at this conference, Mr. Getahun will share his research on “*Antidiarrheal coumarins from Psydrax schimperianus (A. Rich.) Bridson roots”* His presentation promises to provide valuable insights and inspire meaningful discussions on natural product research and a more sustainable future.