

Ethnobotanical and phytochemical studies of ichthyotoxic plants used by populations in the South of Gabon.

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1 ABSTRACT

Local people have used plants and animals as food and medicine for generations. Local people have used plants to feed and as medical treatment. Meanwhile, artisanal fishing is a traditional practice among many local populations in central Africa. These people have used various methods to capture fish from rivers, lakes, and streams for their own consumption. Among these, the poisoning of rivers with tree barks, fruits, and leaves is a frequently used technique. However, the current state of knowledge on plants used as fishing poison in Gabon remains fragmentary. Thus, an ethnobotanical study was conducted aiming at determining plants and their use as fishing poison from artisanal fishermen in several Gabonese localities. To determine the chemical composition of plant organs likely to be used as fishing poison, phytochemical tests were carried out on 15 of the most used plants by local populations in three Gabonese regions: Haut-Ogooué, Nyanga and Ogooué-Lolo provinces. Out of a total of 87 collected specimens in these three regions, 31 species and 16 families were identified. Plant families frequently used were Papilionaceae (32.18%), Acanthaceae (19, 54%) and Mimosoïdeae (10, 34%), while the most represented species was *Tephrosia vogelii* (23 %). In addition, leaves were the most exploited parts of the plant (60.91%). The Papilionaceae, Acanthaceae and Mimosaceae are well known for their ichthyoidal properties in other regions of the world and the large number of these plants (87 in total) unveils not only of the high richness throughout sampled provinces, but also the expert botanical knowledge of local ethnic groups. Furthermore, several molecules of secondary metabolism were highlighted regardless of the plant organ they were extracted from. These were alkaloids, flavonoids, tannins, free anthraquinones, total polyphenols, sterols/terpenes, reducing sugars, cyanogenic heterosides and flavones.