ABSTRACT
Plants are used by various communities all over the world for their medicinal values. Many plants including *Teclea trichocarpa* have been used traditionally for their anthelmintic activity. Scientific research to isolate active ingredients and determine their biological activities is important to support the ethno-medicinal uses of plants. This study was carried out to isolate and characterize pure compounds from the root bark of *Teclea trichocarpa* and to determine their anthelmintic activities.

The plant materials were collected from Ngong Forest in Kenya, dried at room temperature and ground into a fine powder. Phytochemical screening tests were carried out. Cold maceration extractions were done using dichloromethane-methanol (1:1) as the solvent. The dry extract was fractionated by open column chromatography on normal phase silica gel powder (32-63μm) connected to a fraction collector. Ethyl acetate was used as the mobile phase for the system. The eluate was collected in test tubes. Crystals that formed in test tubes were re-crystallized and their purity was monitored using thin layer chromatography and confirmed using high pressure liquid chromatography. Egg hatch assay and larval development assay was done on the crude extract and the isolates to determine their anthelmintic activity. Brine shrimp lethality test (BSLT) was done on the *Teclea trichocarpa* root bark extract.

The root bark of *Teclea trichocarpa* was found to contain alkaloids and tannins. Three pure compounds were isolated and their molecular structures determined as the triterpene lupeol and the alkaloids melicopicine and 6-methoxytecleanthine, based on their ultra violet, fourier transform infra red, carbon-13 and proton nuclear magnetic resonance spectroscopy and mass spectrometry data. Both melicopicine and 6-methoxytecleanthine inhibited hatching of the sheep nematode (strongyles) eggs while the three isolates did not inhibit the development of the strongyle larvae. The LD₅₀ for brine shrimp lethality test done on the crude extract was 41.64 μg/ml.

This is the first time lupeol is reported in this plant. The anthelmintic activities of melicopicine and 6-methoxytecleanthine support the ethno-medicinal use of the root bark of *Teclea trichocarpa* as an anthelmintic. This study concludes that the root bark of *Teclea trichocarpa* contains lupeol, melicopicine and 6-methoxytecleanthine and recommends further work to be done to isolate more compounds. This plant can therefore be source of lead structures for development of new anthelmintic agents.