

THE CHEMICAL COMPOSITION OF AN UNUSUAL TYPE OF CITRONELLA OIL**L. M. V. Tillekeratne***(Department of Chemistry, University of Colombo, Colombo 3)*

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A large number of species of the genus *Cymbopogon* contain aromatic volatile oils. The best known species are the two citronella grasses *C. nardus* (lenabatu) and *C. winterianus* (mahapangiri) and lemon grass *C. citratus*. A number of cultivars of the citronella grasses have been investigated and the chemical composition of the oils have been reported. The present study reports the chemical composition of the oil from another species, *C. polyneuros* (Steud) Stapf, which was collected from the Serpentine area of Udawalawe.

Steam distillation gave a pale golden yellow oil in 0.7-0.8% yield, density 0.914-0.918 g/cm³ at 30°C, refractive index 1.486 at 31°C. Among the compounds detected by gas chromatography and identified by retention data and peak enrichment on 2 liquid phases of different polarity were, limonene (9%), and terpinene (+), citronellal (0.2%), linalool and linalyl acetate (3%), menthol (20%), 4-terpinen-1-ol (2%), caryophyl-

SECTION E

lene (+), terpineol (+), citronellyl acetate (2%), borneol (+), pulegone (17%), citronellol (1.7%), nerol (0.2%), geraniol (14%) and elemol (3%). Presence of pulegone was confirmed by co-chromatography (TLC) of the 2, 4-dinitrophenylhydrazone derivatives of the oil with authentic substance.

The unusual feature in this oil is the presence of menthol and pulegone together with the usual citronella type compounds such as geraniol, citronellol, citronellal and the acetate esters. Previous investigations have shown the presence of piperitone in two species of *Cymbopogon* from India, but presence of menthol and pulegone have not been reported for any species or variety of *Cymbopogon*.