

THE CHEMISTRY OF SECRETIONS USED BY THE WEAVER ANT,
OECOPHYLLA LONGINODA, IN ALARM AND DEFENSE.

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When disturbed, an O. longinoda worker bends its abdomen into a vertical position and produces a fragrant but musty odour, which arises from mandibular glands in the head. The major cephalic volatile has been identified as 1-hexanol (analysis by solid-sample gas chromatography and by combined gas chromatography and mass spectrometry of the alcohol and its trimethylsilyl derivative). This compound has not been previously identified in formicine ants, although the higher homologues 1-octanol and 1-nonanol are present in heads of Lasius niger (Bergström and Löfqvist, 1970).

The major components of extracts of whole ants are formic acid (from the poison gland), and a range of hydrocarbons that comes from the Dufour gland. n-Undecane forms about 80% of the contents of the latter. A series of n-alkanes (C_{10} , C_{12} , C_{13} , C_{14} , C_{15} and C_{17}), and C_{13} and C_{17} alkenes, a C_{17} diene, and other minor unidentified constituents are also present.

Gas chromatographic analysis of air drawn over excited major workers shows n-undecane and 1-hexanol to be the principal constituents, together with some formic acid. It is likely that these substances have separate functions in communicating alarm.

REFERENCES

- BERGSTROM, G., & LÖFQVIST, J. (1970). Chemical basis for odour communication in four species of Lasius ants. J. Insect Physiol. 16: 2353-2375.