



ABSTRACT

Insect venoms are complex mixture of proteins, peptides, alkaloids, organic acids and pheromones. Their compositions vary from species to species. These venoms have been a particular subject of interest because they looked up a source of new biologically active compounds in fields of medicine and agriculture. Many new anti-microbial, anti-inflammatory and anti-cancerous compounds have successfully been isolated from toxins of various insects. In the field of agricultural science pheromones have been subject of special interest due to their use in integrated pest management (IPM). The *Tetraponera* ants (sub-family *Pseudomyrmecinae*) are known to form mutualistic relationship with their host tree. They are known to have very painful venom. The alkaloid components of their venom are well studied but a very little is known about the composition of their venom. In this study the *Tetraponera* ants were collected from district Bimber, Azad Kashmir. Their venom was extracted by hexane treatment. The extracted venom was subjected to GC-MS for analysis. The detected compounds were compared with compounds already reported in other species of ants. Compounds resembling with 3-undecanone and 3-octanone were found in fraction 1 (40% acetone) which are reported to induce biting behavior and act as attractant in *Crematogaster sp.* and *Myrmica sp.* respectively. Octyl hexanoate and octadecyl butyrate resembling components were detected in fraction 2 (60% acetone). These are known to work as repellent in *Formica cunicularia* and as slave maker in queens of *Polyergus rufescens*. Compounds showing similarity with 4-methyl-3-heptanyl oleate, isogeraniol and 9, 10-epoxynonadecane were found in fraction 3 and 4 (80% and 100% acetone) which are known to protect volatile pheromones and compounds and cause them to last longer. Fraction 4 also contained organic acids; heptadecanoic acid, tetradecanoic acid, octadecanoic acid, hexadecanoic acid and oleic acid. The organic acids are known to act as inflammatory agent, irritants or as precursor for other molecules. Compound similar 2-methyl-1-hexanol was also found which is reported to have anti-microbial activities in *Cataglyphis sp.* This fraction also contained component resembling with dihydroactinodiolide was also detected which is known to act as marker in *Solenopsis invicta*, the compounds marked with this are known to be carried to the nest. Fraction 3, Whole body extract, poison gland extract and toxin extract contained compounds which could not be matched with any other compound in NIST Library 27.