

### 3.0 NOVEL TOXINS AND BIOREGULATORS

This section reviews work on new peptide toxins and bioregulators. The focus is on peptides that may be relevant to the Biological and Toxin Weapons Convention.

#### 3.1 Conotoxins

Research on the conotoxin group of peptide toxins has increased significantly since its discovery in 1980. The conotoxins have novel structural features which have prompted scientific interest, and this work has caused major revisions to scientific knowledge about toxicities of small peptides. The neurotoxic conotoxins are a thousand-fold more toxic than previously characterized peptides in this size class.

The venomous fish-hunting cone snails of the genus Conus have developed a potent biochemical strategy to paralyse their prey. They produce several types of toxic peptides (called conotoxins) that attack several physiological sites. These distinct toxins share several common characteristics: they are relatively small peptides (13 to 29 amino acids); they are highly crosslinked by disulphide bonds; and they are highly basic.