## OMICSGOUP <u>Conferences</u> Accelerating Scientific Discovery Ath World Congress on **Bioavailability and Bioequivalence:** Pharmaceutical R&D Summit

May 20-22, 2013 DoubleTree by Hilton, Beijing, China

## Therapeutic biomolecules of venomous arthropods

K. Sahayaraj St. Xavier's College, India

renomous insects occur in three groups: The true bugs of the order Hemiptera, the butterflies and moths of Lepidoptera, and the ants, bees, and wasps of Hymenoptera are the three groups of venomous insects of Insecta. Moreover, spiders, centipedes, and scorpions may also be venomous from phyla Arthropoda. Venomous arthropods may inject their venomos into prey to immobilize it, or use it defensively against potential predators. These are the most successful venomous animals and the most abundant terrestrial predators. The venom contains protein toxins, enzymes, and other bioactive substances making them a valuable resource for drug discovery. Spider venom containing >1000 unique peptides of mass 2-8 kDa, however, only a small number of spider venom peptides have been pharmacologically characterized. They mainly possesses antiarrhythmic, antimicrobial, analgesic, antiparasitic, cytolytic, haemolytic, and enzyme inhibitory activity, induce neurotransmitter, analgesic potential, antiarrhythmic drugs ect. Reduviid predator having peptides like Ptul, Adl and Iobl, 3798 Da (RmIT1) and 7500 Da (RmIT2) of Rhynocoris marginatus; 2358 Da (RfIT1) and 3423 Da (RfIT1) of Rhynocoris fuscipes were recorded. In addition, hyaluronidase, phosphor- lipase, masto-pranol were also recorded. They have insecticidal and antimicrobial activities. Furthermore, the toxic principles are non-pathogenic mammals. In addition, other hemipteran venomous saliva with therapeutic biomolecules has discussed briefly. Social Hymenoptera venom are spread over the molar mass range of 1400 to 7000 kDa are melittin, apamin, tertiapin, secapin, Mastoparans, Crabrolin, Anoplin, Sylverin, Bombolitins, Myr p" Peptides, Poneratoxins, Ponericins, Ectatomin, Pilosulin, and MCD-peptide perform antimicrobial activity, insecticidal activities along with pharmacological impacts have been discussed. As observed for other Arthropods, scorpions' venom is also has a cocktail of several low molecular weight basic proteins, neurotoxins, nucleotides, aminoacids, oligopeptides, cardipotoxins, nephrotoxin, hemolytic toxins, phosphodiesterase, phospholipase A, hyaluroinidase. BmK-YA, an amidated peptide of Asian scorpion Buthus martensii Karsch can activate mammalian opioid receptors. Similarly Tb V-4, Tityus bahiensis scorpion has convulsive and degenerative effects also elaborated briefly in the presentation.

sraj42@gmail.com