

## 4.1 INTRODUCTION

Throughout the world, rural people are suffering from venomous bites and go for acute therapeutic treatment (Kunjam et al. 2013). The sufferers experience mortality, local pathology and systematic pathology. Primarily, arthropod bites produce effects on the skin by means of the assortment of mechanisms (Bagnall and Rook 1977; Stawiski 1985; Walton 1988). Arthropod envenomation causes effects like local tissue damage, erythema, swelling, ulceration, itching, etc (Eivind et al. 2011).

As literature surveys reported, rural people who practise folk medicine often live in synchronization with nature, have a rich knowledge on the healing value of therapeutic plants against venomous bites and related problems (Revathi and Parimelazhagan 2010) and have evolved a unique system of unrecorded medicinal practises to cure various ailments (Perumal, Samy, and Ignacimuthu 2000) which are known as traditional systems of medicine (Martz 1992; Mors et al. 2000; Soares et al. 2004, 2005, 2009). People depend on medicinal plants to supplement emergency care (Kundal 2009). Plant-based traditional knowledge has been a recognised tool in the search for new sources of drug and nutraceuticals (Sharma and Mujumdar 2003). Several scientific studies are in progress using modern scientific tools based on the folklore and ethnomedicine for formulating new pharmaceuticals (Pradeeps and Poyyamoli 2013).

## 4.2 VENOMOUS CENTIPEDE *SCOLOPENDRA*

Centipedes belong to Class Chilopoda and have Myriapod lineages. There are about 3500 species worldwide within five orders: Scutigermorpha, Lithobiomorpha, Craterostigmomorpha, Geophilomorpha and Scolopendromorpha; all except Geophilomorpha assault humans (Eivind et al. 2011). The Scolopendromorpha includes the genus *Scolopendra*, which is the largest and most dangerous (Bush et al. 2001) and is found to be cosmopolitan in India (Vinod 2006). Centipede bites are a major health problem among the rural community, and in 2014, the Tamil Nadu centipede bite rate was 17.8 per 1000 members of the population (Murugan et al. 2014).

The venom composition of *Scolopendra* has some similarities to snakes venom like *Bungarus caeruleus* (Krait), *Ophiophagus hannah* (Cobra) and *Bothrops jararacussu* (Viper) (Table 4.1 and Figure 4.1) (Eivind et al. 2011; Lejjiane et al. 2013; Mirajkar et al. 2006; Rajan et al. 2013b; Singh et al. 2001a; Tan and Ponnudurai 1990; Tan et al. 2015; Warrell 1993; Zhang et al. 2002). The enzymes phospholipase A2 and metalloproteases and non-enzymes cardiotoxin and myotoxin are found commonly among centipede, krait, cobra and viper venom. These are responsible for local pathology, hypersensitivity and delayed hypersensitivity, which may lead to life-threatening effects for the victims.