



# INFORMATION ON



# ROVE

# BEE-TLE



Common Name : **Rove Beetle**  
 Scientific Name : **Staphylinidae (ARTHROPODA : INSECTA : Coleoptera : Staphylinidae) Species *Paederus fuscipes* Curtis**  
 Malay Names : **Semut Semai, Semut Kayap, Charlie etc.**  
 Number of Species : **Estimated 47,000**

## Morphology

The Rove Beetle is a conspicuously coloured beetle measuring 7mm. The body is orange brown. The head and the tip of the abdomen are black. It has dark metallic green short elytra (hard wings) which covers only the central part of the body. A pair of transparent wings are neatly folded and hidden under these hard wings. During daytime, the beetle will be seen crawling around swiftly with hidden wings resembling ants. When disturbed it raises the abdomen in a threatening gesture like a scorpion and can fly away. It can also run on water swiftly !



when threatened

on land



running on water



ready to fly

## Habitat and Feeding Habits

The beetle has been observed in the rice fields. It is carnivorous and eats smaller insects. Thus it plays an important role as a biological control of 'rice pests'. During heavy rain/ flood, population explosion, harvesting, the beetle may migrate to drier areas/ human dwellings.



## Effects on Humans

The haemolymph in the beetle's entire body (except the wings) contains the most poisonous animal contact toxin in the world called '**pederin**' (C<sub>24</sub> H<sub>43</sub> O<sub>9</sub> N) named in 1953. It is 15 times more poisonous than cobra venom ! Dried and stored rove beetle for 8 years still retained its toxicity ! **Contact collision** with the beetle while travelling or sleeping, **crushing** it on the body or **smearing** with soiled fingers can cause conjunctivitis and severe dermatitis known as dermatitis linearis (1919), *paederus* dermatitis, staphylinidae dermatitis, whiplash dermatitis, Nairobi eye etc. The dermatitis can be severe, painful and unsightly, with scars persisting for months. It is characterised by elongated lesions (linearis/ whiplash marking) ① and kissing lesions ② when the beetle is crushed between two skin surfaces.



## Public Health Advice

This dermatitis is **self inflicted** by human victims when they crush it on their bodies. As such **do not crush the beetle on the body, just blow it away. if there is contact with the beetle, immediately wash the affected area with soap and water.** Since the beetle is attracted to lights at night, switch off lights, close doors and windows. Use fine mosquito netting, aerosol insect spray, glue traps etc. Those who suffer severe skin reactions should seek medical attention.

## Public Health Control

The Public Health and Municipal Authorities can control the swarming of rove beetles in residential areas by applying insecticide via thermal fogging or target spraying using Pesguard FG 161 (d-tetramethrin 4.4% w/w / cyphenothrin 13.2% w/w) glue traps, electric insect traps etc.

## Occurrence

Outbreak of dermatitis linearis has been reported in China (AD 739), Indonesia (1891), Malaysia (1919), Argentina, Kenya, Iran, Russia, India, Thailand, Pakistan, Japan, Taiwan etc. Most countries did not recognise it for decades and blamed it on caterpillars, spiders, moths, lizard urine etc. In September 2002, about 2,000 people living in high rise flats/ school dormitories were affected by dermatitis linearis in Penang, Malaysia.

**Sources :** Dr. Lee Han Lim (IMR), Dr. Zairi b. Jaal (USM), Mr. Nik Mohd. Noor b. Nik Salleh (MARDI), Sumitomo Chemical Enviro-Agro Asia Pacific Sdn. Bhd., Agricultural Chemicals (M) Sdn. Bhd., J. Med. Entomol. Vol.24-1987 & Prof. Howard Frank, University of Florida

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