

DOMESTIC COCKROACHES OF MALAYSIA

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A brief review of domestic cockroaches of Malaysia, their distribution and the pathogens isolated from them is presented. Cockroaches were trapped in modified glass beakers baited with a mixture of cat chow and brown sugar. These traps were placed inside and outside domestic premises. Nine species of cockroaches were recorded; at least one species, *Periplaneta americana* was very common and occurred in large numbers especially in urban areas.

P. americana was collected from most places in Malaysia except in an Orang Asli (Aborigines) village in Carey Island off Port Klang. *P. brunnea* which is often mistaken for *P. americana*, was also collected in large numbers. This cockroach was added into the Malaysian fauna by us in 1982. Morphologically the cockroach closely resembles *P. americana* and both preferred warm damp places but *P. brunnea* tend to camouflage their oothecae with materials from the site of attachment. *P. brunnea* appeared to coexist with *P. americana* and *Neostylopyga rhombifolia* in the same niche especially in the drawers of kitchen cabinets. However, *N. rhombifolia* was not collected at an animal facility though both *P. americana* and *P. brunnea*, and *Blattella germanica* were in abundance. *B. germanica* is a small diurnal cockroach and may be confused with *Supella longipalpa*. Both *S. longipalpa* and *B. germanica* showed preference for furniture, in boxes and drawers, behind picture frames and bookshelves. Unlike *P. americana* and *P. brunnea*, *B. germanica* preferred dry warm places and is quite frequently seen in warm food cabinets in restaurants. *P. australasiae* was collected mostly from semi-urbanised areas; the cockroach prefers warm humid environments and has been collected from both inside and outside houses. *Nauphoeta cinerea* was often seen in boxes and crates outside buildings and was common in the vicinity of ports and warehouses. *Lupparia notulata* is a small arboreal cockroach and was reported as a domestic species by us in 1984. The only other member of the genus *Lupparia* reported as a household pest is *L. vilis* in Japan. Oothecae of *L. notulata* were found attached to kitchen cabinet corners, in plastic bags and at the bottom of food racks. Adults were seen mostly in open places e. g. table tops, onion and garlic racks and other areas of the kitchen. *Pycnoscelus surinamensis* is a peri-domestic species and was seen mostly underneath stones and litter. Well shaded areas with lots of loose topsoil seemed to be their favourite habitat. On several occasions however *P. surinamensis* were collected from inside houses and sundry shops.

Bacterial isolations were made from the guts of domestic cockroaches. *Shigella flexneri*, *Salmonella typhi*, *Escherichia coli* and unidentified *Salmonella* spp. were isolated from *P. americana*, *P. brunnea*, *P. australasiae*, *N. rhombifolia* and *N. cinerea*. Also, a strain of *Serratia marcescens* and *Pseudomonas aeruginosa* were isolated from *N. rhombifolia* and *L. notulata* respectively. Cystacanths of *Moniliformis moniliformis* were seen in *P. americana* and *N. rhombifolia*; larvae of the pentastomid *Railliettiella* were isolated from *P. americana*. Infective larvae of the bird eye worm, *Oxyuris mansonii* were found in the Surinam cockroach, *P. surinamensis*.