

**THE DIVERSITY OF COCKROACHES
(BLATTODEA:BLATTARIA) IN RURAL,
SUBURBAN AND URBAN KOTA KINABALU,
SABAH.**

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ABSTRACT

THE DIVERSITY OF COCKROACHES (BLATTODEA:BLATTARIA) IN RURAL, SUBURBAN AND URBAN KOTA KINABALU, SABAH.

A study on domiciliary cockroach diversity and distribution using modified bottle trap baited with white bread moistened with a local beer were conducted in 90 households in three areas: rural, suburban and urban, along the Jalan Kionsom, Inanam, Kota Kinabalu, Sabah. Eight cockroach species were collected and identified. From the family Blattidae four species were caught: *Periplaneta americana* (L.), *Periplaneta australasiae* (Fab.), *Periplaneta brunnea* Burmeister and *Neostylopyga rhombifolia* (Stoll). The family Blaberidae were represented by *Pycnoscelus surinamensis* (L.) and *Nauphoeta cinerea* (Olivier) and finally from family Blattellidae two species were identified, *Supella longipalpa* (F.) and *Rhadoblatta* sp. Results also showed that *Periplaneta americana* is the most abundant cockroach in study area (44.6%) followed by *Periplaneta brunnea* (25.6%), *Periplaneta australasiae* (16.8%), *Nauphoeta cinerea* (10.9%), *Supella longipalpa* (0.7%), *Rhadoblatta* sp. (0.7%), *Neostylopyga rhombifolia* (0.4%) and *Pycnoscelus surinamensis* (0.4%). Four cockroach species were found in rural areas including *Periplaneta australasiae*, *Neostylopyga rhombifolia*, *Rhadoblatta* sp. and *Pycnoscelus surinamensis*. *Supella longipalpa* was only found in suburban whereas *Nauphoeta cinerea* in urban areas. *Periplaneta americana* and *Periplaneta brunnea* were found to be more scattered in all areas. The diversity of cockroaches were analyzed with Shannon-Weiner Diversity Index and showed that rural areas had the highest diversity index ($H'=1.1684$) followed by urban ($H'=1.0421$) and suburban was the lowest ($H'=0.75752$). Urban areas were highly infested (73.3%) by cockroach followed by rural (63.3%) and suburban were least infested (56.7%).

ABSTRAK

Satu kajian terhadap diversiti dan taburan lipas domisil menggunakan perangkap botol yang diubahsuai dengan roti putih yang dilembapkan dengan bir tempatan sebagai umpan, telah dijalankan di 90 rumah di tiga kawasan iaitu kampung, pinggir bandar dan bandar sepanjang Jalan Kionsom, Inanam, Kota Kinabalu, Sabah. Lapan spesies lipas telah dijumpai dan dikenalpasti. Empat spesies daripada famili Blattidae telah berjaya ditangkap: *Periplaneta americana* (L.), *Periplaneta australasiae* (Fab.), *Periplaneta brunnea* Burmeister dan *Neostylopyga rhombifolia* (Stoll). Famili Blaberidae diwakili oleh *Pycnoscelus surinamensis* (L.) dan *Nauphoeta cinerea* (Olivier) dan akhir sekali ialah famili Blattellidae di mana dua spesies telah dikenalpasti iaitu *Supella longipalpa* (F.) dan *Rhadoblatta* sp. Hasil kajian menunjukkan bahawa *Periplaneta americana* merupakan lipas yang mempunyai kadar kelimpahan tertinggi di kawasan kajian (44.6%) diikuti oleh *Periplaneta brunnea* (25.6%), *Periplaneta australasiae* (16.8%), *Nauphoeta cinerea* (10.9%), *Supella longipalpa* (0.7%), *Rhadoblatta* sp. (0.7%), *Neostylopyga rhombifolia* (0.4%) dan *Pycnoscelus surinamensis* (0.4%). Empat spesies lipas telah ditemui di kawasan kampung iaitu *Periplaneta australasiae*, *Neostylopyga rhombifolia*, *Rhadoblatta* sp. dan *Pycnoscelus surinamensis*. *Supella longipalpa* hanya ditemui di kawasan pinggir bandar manakala *Nauphoeta cinerea* di kawasan bandar. Taburan *Periplaneta americana* dan *Periplaneta brunnea* pula didapati lebih menyelerak. Kadar diversiti lipas telah dianalisis menggunakan Index Diversity Shannon-Weiner dan menunjukkan kawasan kampung mempunyai kadar indeks tertinggi ($H' = 1.1684$) diikuti oleh kawasan bandar ($H' = 1.0421$) manakala kawasan pinggir bandar mencatatkan indeks terendah ($H' = 0.75752$). Kawasan bandar mencatat kadar infestasi lipas tertinggi (73.3%) diikuti dengan kawasan kampung (63.3%) manakala kawasan pinggir bandar mencatat kadar infestasi terendah (56.7%).