Poster Session 2 – Response to Human Induced Changes

102 Association of rodents with man-made infrastructures and food waste in urban Singapore

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A previous rodent-trapping study at 16 high rise residential estates in Singapore demonstrated high levels of *Rattus norvegicus* activities in waste bin chambers that hold household waste discarded from the apartments. Situated on the ground level of apartment blocks, each chamber serves two columns of apartment blocks and is equipped with a floor trap which is connected to a network of sanitary lines that drains any waste water from the bin chambers. The rodents were observed to access bin chambers via damaged floor trap covers. Here we report a subsequent study on the activity and movement of rodents among the bin chambers and sanitary drain-lines. Passive infra-red hunting cameras were placed in bin chambers with rodent activities and adjacent inspection chambers to capture rodent activities. A capture-mark and release study was then conducted to track the movement of rodents in the sanitary-drain lines that serve the entire block of flats. During the 3 days of observations, the rodents were generally active from afternoon till early mornings, with spikes of activity recorded after lunch and dinner times of local residents. Our cameras did not detect movement of marked rodents to other infested bin chutes connected by the sanitary drain-line network. They were observed to move only between the bin chamber where they were caught and two closest inspection chambers, 2.5 m away. Further investigation with an industrial endoscope revealed that rodents were living in underground cavities below bin chambers with breached floor trap pipe. The study showed how rodents use man-made infrastructures to harbour and access food waste; and the importance of infrastructure design and maintenance in controlling the population of urban population of rodents.
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