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Diversity and Infestation Level of Nest-dwelling Ectoparasite in Five Types of Bird Nests in Sri Lanka

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Abstract

Nest-dwelling ectoparasites represent a part of nidofaunal community and bird nests play a role as a miniature ecosystem by providing food, refuge and a suitable microclimatic condition for these ectoparasites to successfully reproduce their generations. This study focused on the nest-dwelling ectoparasite infestation in relation to five types of bird nests (Cup, Pendulum, Dome, Platform and Cavity) which were represented by eighteen common bird species in Sri Lanka. During the study180 individual nests were sampled. Ectoparasites were collected using a portable electric mini vacuum cleaner. A total of 1,506 nest-dwelling ectoparasites were extracted from the nest sample collection by saltwater filtration method. They were represented by hematophagous mesostigmatic mites (Order Mesostigmata), snout mites (Family Bdellidae), beetle mites (Family Oribatulidae), dust mites (Family Glycyphagidae) and one type of bird louse Columbicola columbae. When considering the parasitic infestation in relation to the nest type, cup shaped nests showed the highest percentage of infestation (31.70%) and the lowest percentage of infestation was seen among cavity nests (9.30%). The percentage of ectoparasitic infestation in nest types can be organised in descending order: Cup nests (31.70%), Dome nests (29.46%), Pendulum nests (15.98%), Platform nests (13.56%) and Cavity nests (9.30%). The infestation of cup nests, dome nests and pendulum nests were dominated by dust mites while the platform nests were dominated by hematophagous mesostigmatic mites. Since birds use diverse strategies to reduce the infestation of nest-ectoparasites due to their wide-ranging effects on birds with consequences on their morphology, physiology and behaviour this basic study provides an idea on the effect of nest type as another strategy to reduce the nest-ectoparasite infestation. Further studies should be carried out to investigate the influence of nest type and nest material to reduce the nest-ectoparasite infestation by avifauna.

Keywords: Bird nests, Nest-Ectoparasites, Nest types, Parasitic infestation