

The role of host size, movement, feeding status, color, and species in the visual host evaluation and recognition behavior of the tick parasitoid, *Ixodiphagus hookeri* Howard was investigated. Freshly emerged female parasitoids were subjected to a choice bioassay, where the test materials were placed in sealed vials and the vials placed in a Petri dish. When presented with *A. variegatum* live and mummified nymphs, females examined: larger nymphs significantly longer than smaller nymphs, fed nymphs significantly longer than unfed nymphs, dead and live nymphs for similar lengths of time, and grey live nymphs and yellow-brown and dark brown mummified nymphs for similar lengths of time. The total number of visits to vials containing these test materials were also not significantly different, except there were significantly more visits to yellow-brown mummies when compared to the number of visits to dark brown mummies. When presented with *A. variegatum* (host) and *R. appendiculatus* (nonhost) nymphs, the females examined *A. variegatum* nymphs significantly longer than *R. appendiculatus* nymphs. The total number of visits to vials containing *A. variegatum* nymphs were significantly more than the visits to the vials containing *R. appendiculatus* nymphs. Furthermore, females spent significantly more total examination time per visit on larger and fed *A. variegatum* nymphs when compared to smaller and unfed nymphs, respectively. Direct and indirect detection were significant when females were presented with fed versus unfed *A. variegatum* nymphs, grey nymphs versus yellow-brown mummies, and *R. appendiculatus* versus *A. variegatum* nymphs. Direct and indirect detection for the rest of the bioassays were not significantly different. Finally, The percentages of females contacting large fed *A. variegatum* nymphs first were significantly different from those of females contacting small unfed *R. appendiculatus* nymphs first. The firstcontact percentages for the rest of the bioassays were not significantly different.