

**P101**

*Impact of social parasitism on colony development of Bombus ignitus*

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There are several reports from Europe and Japan about unrelated bumblebee queens of the same or even different species forming a mixed colony, suggesting that nest takeover occurs in nature, although a foundress queen can build a colony by herself. A possible cause of this phenomenon may be a limited number of suitable nest sites and variation in when queens wake after overwintering. In temperate regions, there may be severe competition for nest sites in spring between foundress queens. Clarification of bumblebee life cycles is important in understanding the adaptive significance of social parasitism, but field observation is very difficult. Therefore, we studied the impact of nest takeover on colony development by *Bombus ignitus* by using laboratory-reared colonies. The number of egg cups built by a foundress queen tended to increase in taken-over nests compared to nests not taken over. Taken-over nests also tended towards earlier production of reproductives. In addition, we examined the number of reproductives and workers in both types of colonies to compare productivity.