



## **Current indirect fitness and future direct fitness are not incompatible**

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In primitively eusocial insects, many individuals function as workers despite being capable of independent reproduction. Such altruistic behaviour is usually explained by the argument that workers gain indirect fitness by helping close genetic relatives. The focus on indirect fitness has left open the question of whether workers are also capable of getting direct fitness in the future in spite of working towards indirect fitness in the present. To investigate this question, we recorded behavioural profiles of all wasps on six naturally occurring nests of *Ropalidia marginata*, and then isolated all wasps in individual plastic boxes, giving them an opportunity to initiate nests and lay eggs. We found that 41% of the wasps successfully did so. Compared to those that failed to initiate nests, those that did, were significantly younger, had significantly higher frequency of self-feeding behaviour on their parent nests but were not different in the levels of work performed in the parent nests. Thus, ageing and poor feeding, rather than working for their colonies, constrain individuals for future independent reproduction. Hence future direct fitness and present work towards gaining indirect fitness are not incompatible, making it easier for worker behaviour to be selected by kin selection or multilevel selection.