

OR029

Polistes castes' nutrient levels parallel corresponding generations of bivoltine wasps

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The diapause ground plan hypothesis is that the worker and gyne paper wasp castes correspond to the non-diapausing (G1) and diapausing (G2) generations of solitary bivoltine wasps. Recent work on social wasps suggests that caste differentiation occurs at the larval stage, in reflection of different levels of nourishment. In a previous study, we have found that levels of several micro and macronutrients differ between worker and reproductive destined larvae of the paper wasp *Polistes metricus*. Thus far, however, no information is known about potential nutritional differences in G1 and G2 generations of solitary wasps. We measured the levels of macro and micronutrients in several species of solitary trap-nest wasps and compared levels in G1 and G2 larvae and adults to those previously found in paper wasp worker and gyne larvae and adults. We found that several of the nutritional differences that exist between worker and reproductive destined larvae of *P. metricus* also occur in the G1 and G2 generations of trap nest wasps. These similarities provide support for the diapause ground plan hypothesis.