Foraging energetics of alfalfa pollinating bees *Ceratina* (*Pithitis*) *smaragdula* F. and *Chalicodoma lanata* F.

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The foraging energetics of two alfalfa-pollinating bee species, *Pithitis smaragdula* F. and *Chalicodoma lanata* F., were examined on four different crops growing simultaneously. The cost-benefit analysis of *P. smaragdula* was conducted while foraging on sunflower (*Helianthus annuus*), sponge gourd (*Luffa cylindrica*), alfalfa (*Medicago sativa*), and Indian beech (*Pongamia glabra*), wheras *C. lanata* was examined in relation to *M. sativa*, Jerusalem thorn (*Parkinsonia aculeata*), and pigeon pea (*Cajanus cajan*). To determine the daily energy expenditure and intake of each species, the energetics of oxygen consumption rates were combined with observations on time budgets to calculate energy costs. Energy balance fluctuated daily and varied between crops, but overall, the foraging profitability for *P. smaragdula* followed the order: *P. glabra* > *L. cylindrica* > *H. annuus* > *M. sativa*. For *C. lanata*, the profitability ranked as: *C. cajan* > *P. aculeata* > *M. sativa*. These results indicate that *P. glabra* and *C. cajan* serve as more valuable forage sources than the other crops examined.

Keywords: *Chalicodoma lanata* F., cultivated crops, foraging energetics, *Pithitis smaragdula* F., pollination.