Table 1. Germination of *Beauveria bassiana* conidia in petri dishes of YM agar bearing filter paper discs impregnated with cuticular surface extracts and various compounds (N=3)

Treatment	Width of inhibition zone (mm)		Occurrence of slowed growth
	24 h x ± SE	48 h x ± SE	over disc in relation to blank control
Hexane extract of 44			
D. ponderosae adults/disc	0	0	No
Hexane extract of inoculated <i>D. ponderosae</i> ,			
50 adults/disc	0	0	No
Hexane extract of 60			
D. ponderosae larvae/disc	0	0	No
Hexane control (0.1 mL)	0	0	No
Blank control	0	0	: <del></del> 1
2% caprylic acid in			
hexane (0.1 mL)	$6.4 \pm 0.2$	$6.2 \pm 0.2$	Yes
0.2% caprylic acid in			
hexane (0.1 mL)	$2.0 \pm 0.2$	$1.0 \pm 0.2$	Yes
0.02% caprylic acid in			
hexane (0.1 mL)	0	0	Yes
Hexane extract of 20			
H. cunea larvae/disc	$1.6 \pm 0.3$	$0.9 \pm 0.2$	Yes

mycostatic fatty acids, as well as the requirement for nutrient enhancement (Hunt *et al.* 1984), support the hypothesis that germination of *B. bassiana* on beetle cuticle is nutrient limited.

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Evlakhova, A.A., and T.A. Chekhourina. 1962. L'Activité de défense de la punaise des céréales (*Eurygaster integriceps* Put.) contre les micro-organismes végétaux. pp. 137–141 *in* Coll. Int. Pathol. Insectes, Paris. Hunt, D.W.A., J.H. Borden, J.E. Rahe, and H.S. Whitney. 1984. Nutrient-mediated germination of *Beauveria* 

bassiana conidia on the integument of the bark beetle Dendroctonus ponderosae (Coleoptera: Scolytidae). J. Invertebr. Pathol. 44: 304-314.

Koidsumi, K. 1957. Antifungal action of cuticular lipids in insects. J. Insect Physiol. 1: 40-51.

Saito, T., and J. Aoki. 1983. Toxicity of free fatty acids on the larval surfaces of two lepidopterous insects towards Beauveria bassiana (Bals.) Vuill. and Paecilomyces fumoso-roseus (Wize) Brown et Smith (Deuteromycetes:Moniliales). Appl. Ent. Zool. 18: 225–233.

Smith, R.J., and E.A. Grula. 1981. Nutritional requirements for conidial germination and hyphal growth of *Beauveria bassiana*. *J. Invertebr. Pathol.* 37: 222–230.

1982. Toxic components on the larval corn earworm (*Heliothis zea*) and their effects on germination and growth of *Beauveria bassiana*. *J. Invertebr. Pathol.* 39: 15-22.

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## **ERRATUM**

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p. 284. The fourth sentence of the last paragraph should read:

"Within the Braconidae it is the lack of a subapical notch that is the most widespread character; lacking a reliable phylogeny, I presume this to be the plesiomorphic character state within the Braconidae."