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### Translators 译者

Ruoming Cui, Undergraduate Student, University of California Berkeley, Berkeley, CA 94720, [ruoming\\_cui@berkeley.edu](mailto:ruoming_cui@berkeley.edu)

Lawrence Wang, Graduate Student, University of California Berkeley, Berkeley, CA 94720, [lawrence\\_wang@berkeley.edu](mailto:lawrence_wang@berkeley.edu)

**Intended Audience:** Scientists

**Language:** Mandarin Chinese

In this abstract, the word “colony” can be translated directly into “社群” or “群体”, which is weird in the scenario for bees since “社群” seems to be more human-related though bees have societal behaviors. Thus, I made some editions to change it into “蜂巢”. The word “hydrocarbon profile” cannot be directly translated since the word profile usually directly means documents. Thus, the word profile here is changed into “结构”, referring to structural things. The word variation in the last sentence was translated by YouDao into “变异”, which is more like “mutation”. Thus, I changed it into “变化”.

The text was originally translated with YouDao translator (有道翻译). This translation was done as part of the Spring 2022 Breaking Language Barriers in Ecology and Evolution seminar (IB 84) led by Rebecca D. Tarvin at the University of California Berkeley.

本篇文章基于有道翻译提供的英译中功能, 后经过人工校对, 润色, 和编辑。于专业程度或辞藻水平, 这篇作品还有很多提升的空间。若有提升建议或错误纠正, 请联系本人, 非常感谢。本篇文章翻译于加州大学伯克利分校。

### Translation

#### 肠道微生物群定义了蜜蜂群体中的社会群体成员

Authors 作者 :

卡珊卓 L· 维尼尔 ( Cassondra L. Vernier ) , 伊瑞思 M· 钱 ( Iris M. Chin ) , 波赫玛· 阿杜欧朋 ( Boahemaa Adu-Oppong ) , 约书亚·j· 克虏伯 ( Joshua J. Krupp ) , 乔尔· 莱文 ( Joel Levine ) , 高塔姆· 丹塔斯 ( Gautam Dantas ) , 耶胡达· 本· 沙哈 ( Yehuda Ben-Shahar )

Abstract 摘要 :

在蜜蜂中, 同一蜂巢中基因层面相关联的成员们生来具有群体特有的表皮烃化物结构, 这是一种信息素层面上的同巢识别方式。然而, 尽管蜂巢中亲缘关系密切, 蜂巢中的个体对蜂巢特有化学特征的先天发育在很大程度上取决于蜂巢整体的环境, 而不仅仅依赖于同伴中共有的基因变异。因此, 一个非基因因素是如何驱动一个数量性状的先天发展, 而这个数量性状是由同一蜂巢的成员共享的, 这是一个尚未明确的问题。本文中, 我们为这个难题提供了一个解决方案, 通过展示蜜蜂的同巢识别方式, 至少在一定程度上, 是由蜂巢中个体成员的肠道菌群的共同特征定义的。这些结果说明了宿主-微生物群相互作用作为动物行为性状变化来源的重要性。