



**HAL**  
open science

# IDENTIFICATION OF A TRIGLYCERIDE (GLYCERYL-1,2-DIOLEATE-3-PALMITATE) AS A BROOD PHEROMONE OF THE HONEY BEE (*APIS MELLIFERA* L.)

N. Koeniger, H. J. Veith

► **To cite this version:**

N. Koeniger, H. J. Veith. IDENTIFICATION OF A TRIGLYCERIDE (GLYCERYL-1,2-DIOLEATE-3-PALMITATE) AS A BROOD PHEROMONE OF THE HONEY BEE (*APIS MELLIFERA* L.). *Apidologie*, 1983, 14 (1), pp.59-59. <hal-00890585>

**HAL Id: hal-00890585**

**<https://hal.science/hal-00890585v1>**

Submitted on 11 May 2020

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



HAL Authorization

**IDENTIFICATION OF A TRIGLYCERIDE  
(GLYCERYL-1,2-DIOLEATE-3-PALMITATE)  
AS A BROOD PHEROMONE OF THE HONEY BEE (*APIS MELLIFERA*  
L.)**

**Identifizierung eines Tri-Glycerids (Glyceryl-1, 2-dioleat-3-palmitat)  
als Brutpheromon der Honigbiene (*Apis mellifera* L.)**

**Identification d'un triglycéride (glyceryl-1, 2-dioléate-3-palmitate)  
comme phéromone de couvain de l'abeille (*Apis mellifica* L.)**

N. KOENIGER and H. J. VEITH\*

*Institut für Bienenkunde, Fachbereich Biologie der  
J. W. Goethe-Universität, Karl-v.-Frisch-Weg 2  
D - 6370 Oberursel 1*

*\* Institut für organische Chemie und Biochemie der Technischen Hochschule  
D - 6100 Darmstadt*

Honey bees care for their brood in a very complete way. At low ambient temperatures they incubate the pupae and regulate the temperature at 35 °C. The question how bees recognize the brood is still unsolved. When two semi-artificial queencells consisting out of natural silk cocoons were offered to a group of 500 hive bees they regularly make a choice and intergrate only one of the two cells into their cluster.

The biological active fraction was extracted from drone pupae with diethylether, purified by HPLC and analyzed by masspectrometry, <sup>1</sup>H-NMR and IR-spectroscopy. Based on these results Glyceryl-1, 2-dioleate-3-palmitate was identified as the main component of this fraction. Synthesized substance (7 µg) offered on a test cocoon released the clustering of the bees around it. Experiments on other substances and a more detailed discussion will be published elsewhere.