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COMPARATIVE ANALYSIS OF THE COMPLETE MITOCHONDRIAL GENOME OF *APIS LABORIOSA* (INSECTA: HYMENOPTERA: APIDAE)

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Apis laboriosa Smith is the largest bee in the genus Apis, and it is mainly distributed in Yunnan and Tibet regions in China. In this study, two complete mitogenomes of A. laboriosa from Luding and Dehong were obtained through Illumina sequencing, and the phylogenetic relationship among different geographical populations of A. laboriosa was determined. The entire mitogenomes of A. laboriosa are 15,546 (Luding) and 15,239 (Dehong) bp in length, respectively. The A. laboriosa mitogenome contains 13 protein-coding genes (PCGs), 22 tRNA genes, 2 rRNA genes, and a control region rich in A + T. The maximum likelihood phylogenetic tree using 13 PCGs reveals that A. laboriosa from Dehong and Shangri-La clustered together and form a sister taxon to Luding. This study provides data for an in-depth exploration of the genetic diversity of A. laboriosa and layes a scientific foundation for the conservation of this species.

***Key words**: Apis laboriosa Smith, complete mitogenome, phylogenetic relationship.*

ПОРІВНЯЛЬНИЙ АНАЛІЗ ПОВНОГО МІТОХОНДРІАЛЬНОГО ГЕНОМА *APIS LABORIOSA* (INSECTA: HYMENOPTERA: APIDAE)

Apis laboriosa Smith – це найбільша бджола з роду *Apis*, в основному поширена в китайських районах Юньнань і Тибет. У цьому дослідженні за допомогою секвенування Illumina було отримано два повних мітогеноми *A. laboriosa* з Лудингу й Дехонгу і визначено філогенетичні відносини між різними географічними популяціями *A. laboriosa*. Довжина повних мітогеномів *A. laboriosa* становить 15 546 (Лудинг) і 15 239 (Дехонг) пар нуклеотидів, відповідно. Мітогеном *A. laboriosa* містить 13 білоккодуючих генів (PCGs), 22 генів тРНК, 2 гени рРНК і контрольний регіон, багатий на A + T. Філогенетичне дерево максимальної вірогідності за використання 13 PCGs демонструє, що *A. laboriosa* з Дехонгу і Шангрі-Ла перебувають в одному кластері і формують таксон, сестринський до Лудингу. Це дослідження надає дані для глибокого вивчення генетичного різноманіття *A. laboriosa* і закладає наукові передумови для збереження цього виду.

***Ключові слова:** Apis laboriosa* Smith, повний мітогеном, філогенетичні відносини.

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