

GENOME SEQUENCING

The Complete Genome Sequence of *Chrysina resplendens* (Scarabaeidae, Coleoptera) the Golden Jewel Scarab

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Biodiversity Genomes

Chrysina resplendens is a scarab beetle endemic to Central America. We present the whole genome sequence of this species. Illumina sequencing was performed on a genetic sample from a single captive individual. The reads were assembled using a de novo method followed by a series of references from related species for finishing. The raw and assembled data is publicly available via Genbank: Sequence Read Archive (SRR5170512) and Assembly (JAADJY0000000000).

Introduction

Chrysina resplendens, or the Golden Jewel Scarab, is found in Central America. It is notable for its shiny metallic gold appearance, prized by insect collectors. This species and others in the genus have evolved an exoskeleton that contains intricate nano-structures that are responsible for its metallic sheen (Fernández del Río, Arwin, and Järrendahl 2016).

Methods

A single wild-caught individual was used for this study. DNA extraction was performed using the Qiagen DNeasy genomic extraction kit using the standard process. A paired-end sequencing library was constructed using the Illumina TruSeq kit according to the manufacturer's instructions. The library was sequenced on an Illumina Hi-Seq platform in paired-end, 2 × 150bp format. The resulting fastq files were trimmed of adapter/primer sequence and low-quality regions with Trimmomatic v0.33 (Bolger, Lohse, and Usadel 2014). The trimmed sequence was assembled by SPAdes v2.5 (Bankevich et al. 2012) followed by a finishing step using Zanfona (Kieras, O'Neill, and Pirro 2021).

Results

The genome assembly yielded a total sequence length of 68,246,219 bp.

Data availability

Raw and assembled data is publicly available via GenBank:

RAW GENOME DATA

<https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR5170512>

ASSEMBLED GENOME

<https://www.ncbi.nlm.nih.gov/nucore/JAADJY000000000>

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