A Big Earth Data Platform for Three Poles

**The first Fulgoridae (Hemiptera: Fulgoromorpha) from the Eocene of the central Qinghai–Tibetan Plateau**

1、Description

The Qinghai–Tibetan Plateau (QTP) played a crucial role in shaping the biodiversity in Asia during the Cenozoic. However, fossil records attributed to insects are still scarce from the QTP, which limits our understanding on the evolution of biodiversity in this large region. Fulgoridae (lanternfly) is a group of large planthopper in body size, which is found primarily in tropical regions. The majority of the Fulgoridae bear brilliant colors and elongated heads. The fossil records of Fulgoridae span from the Eocene to Miocene in the Northern Hemisphere, and only a few fossil species from Neogene deposits have been reported in Asia so far. Here, we report a new fossil record of Fulgoridae from the middle Eocene Lunpola Basin, central QTP. The specimen is in lateral compression, with complete abdomen, thorax, and part of the wings preserved, while most of the head is missing. It belongs to the “lower Fulgoroidea” judging by several strong lateral spines on the hind tibia and a row of teeth at the apex of the second metatarsomere. This fossil specimen is assigned to Fulgoridae by comparison with nine families of the “lower Fulgoroidea”. The specimen represents the earliest Fulgoridae fossil record in Asia and was considered a new morphotaxon based on the peculiar legs and wings. Based on the modern distribution of fulgorid and other paleontological evidence, we suggest a warm climate with relatively low elevation during the middle Eocene in the central QTP. Therefore, this new fossil record not only provides important information on insect diversity in the middle Eocene, but also gives new evidence on the paleoenvironment in the core area of the QTP from the perspective of an insect.

2、Keywords

Theme：Macrofossils,Paleoclimate Reconstruction  
Discipline：Palaeoenvironment  
Places：Tibetan Plateau  
Time：Eocene

3、Data details

1.Scale：None

2.Projection：

3.Filesize：20.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：90.0 | - | east：100.0 |
| - | south：30.0 | - |

5、Time frame:2021-03-03 16:00:00+00:00--2021-04-03 03:59:59+00:00

6、Reference method

References to data:

SU Tao. The first Fulgoridae (Hemiptera: Fulgoromorpha) from the Eocene of the central Qinghai–Tibetan Plateau. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2720812022

References to articles:

Xu, X.T., Deng, W., Zhou, Z.K., Wappler, T., & Su, T. (2021). The first Fulgoridae (Hemiptera: Fulgoromorpha) from the Eocene of the central Qinghai–Tibetan Plateau. Foss. Rec., 24, 263–274

7、Supporting project information

8、Data resource provider

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