A Big Earth Data Platform for Three Poles

**Early Oligocene plant functional types of southeastern Tibetan Plateau inferred from palynology**

1、Description

This dataset is derived from the paper: Tang, H. et al. (2020). Early Oligocene vegetation and climate of southwestern China inferred from palynology. Palaeogeography, Palaeoclimatology, Palaeoecology, 560, 109988. doi:10.1016/j.palaeo.2020.109988
This data is part of Supplementary data of the paper, maily contains: Supplementary table 1) Pollen percentages, which were calculated using the collected pollen samples. Supplementary table 2) Plant functional types (PFTs) for the reconstructed paleovegetation of three sites : Wenshan (Early Oligocene), Jianchuan (Early Oligocene) and Lühe (Late Eocene).
Recently, in the town of Lühe, central Yunnan, SW China, a new fossil-bearing section was found and dated as early Oligocene (~33–32 Ma) according to U-Pb isotope of volcanic tuff. The fossil-bearing section totals about 18 m in thickness. Fifty-five pollen samples were collected vertically throughout this Lühe town section. For each sample, 2–2.5 g of sediment were treated with KOH (10%,) HCl (10%) and HF (39%), then sample residues were sieved through a 5 μm nylon mesh in an ultrasonic tank. Spore and pollen grains were identified using both a light microscope (LM, Leica DM1000 microscope) and a scanning electronic microscope (SEM). Single grains were picked up by a capillary tube and then transferred to a copper stub, coated with gold and observed with a Zeiss EVO LS10 SEM. At least 300 pollen grains were counted for each sample under the LM at ×400 magnification. Then the pollen percentages were calculated using the sum of total terrestrial pollen.
The paleovegetation was reconstructed following the method described by Prentice et al., 1996, Prentice and Jolly, 2000 and Ni et al. (2010). The paleobiomes were reconstructed by comparing the similarity of the palaeoflora with modern plant functional types (PFTs), according to the data published by Ni et al. (2010). The similarity between the palaeoflora and modern PFTs data was explored using Euclidean distances (Prentice et al., 1996) and the Jaccard Index Coefficient (Pound and Salzmann, 2017). The Jaccard Index Coefficient in the R package “clusteval” was used here to calculate the similarity. The palaeoflora was assigned to the biome with the highest similarity scores, taking into account dominant or key taxa.

2、Keywords

Theme：Pollen,Vegetation,Plant functional types,Paleoclimate Reconstruction
Discipline：Terrestrial Surface,Palaeoenvironment
Places：Yunnan Province, Lühe town, Southeastern Tibetan Plateau
Time：Early Oligocene

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.07MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：25.14 | - |
| west：101.37 | - | east：101.37 |
| - | south：25.14 | - |

5、Time frame:None--None

6、Reference method

References to data:

TANG He. Early Oligocene plant functional types of southeastern Tibetan Plateau inferred from palynology. A Big Earth Data Platform for Three Poles, doi:10.11888/Paleoenv.tpdc.2711522021

References to articles:

Tang, H., Li, S.F., Su,T., Spicer, R.A., Zhang, S.T., Li, S.H., Liu, J., Lauretano, V., Witkowski, C.R., Spicer, T.E.V, Deng, W.Y.D., Wu, M.X., Ding, W.N., & Zhou, Z.K. (2020). Early Oligocene vegetation and climate of southwestern China inferred from palynology. Palaeogeography, Palaeoclimatology, Palaeoecology, 560, 109988. doi:10.1016/j.palaeo.2020.109988

7、Supporting project information

8、Data resource provider

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