**Supplementary Information for**

**Rapid northwestward extension of the East Asian summer monsoon since the last deglaciation: Evidence from the mollusk record**

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**This file includes:**

Figures S1 to S2

Timeline, map

Description automatically generated

Fig. S1. Field photographs showing the studies loess sequences since the last glacial maximum: Linxia (A), Huanxian (B), Shuozhou (C), Jingchuan (D), Jixian (E), and Yaoxian (F). Dotted lines and solid arrows indicate the L1/S0 boundary and corresponding stratigraphic depths.



Fig. S2. Pedostratigraphy, magnetic susceptibility and absolute ages versus depth for the loess sections at Yaoxian (A), Jingchuan (B), Huanxian (C), Shuozhou (D), and Jixian (E) since the last glacial (Dong et al., 2015, 2021a).