

CORRESPONDENCE

Late Precambrian and Early Palaeozoic Tillites of the Taoudeni Basins, West Africa

SIR – In a recent world wide compilation of tillites – *Earth's Pre-Pleistocene Glacial Record* (1981, ed. M. J. Hambrey and W. B. Harland, Cambridge University Press) – two papers were published concerning the Late Precambrian and Late Ordovician glacial deposits of the Taoudeni Basin in Mauritania, Mali and Algeria (Deynoux and Trompette, papers A19 and A13, 1981*a, b*). The distributions of these glacial horizons are broadly similar, and inadvertently the same Late Precambrian map was used to illustrate both papers. We wish to take this opportunity to correct this mistake and offer our apologies to Dr Deynoux and Professor Trompette.

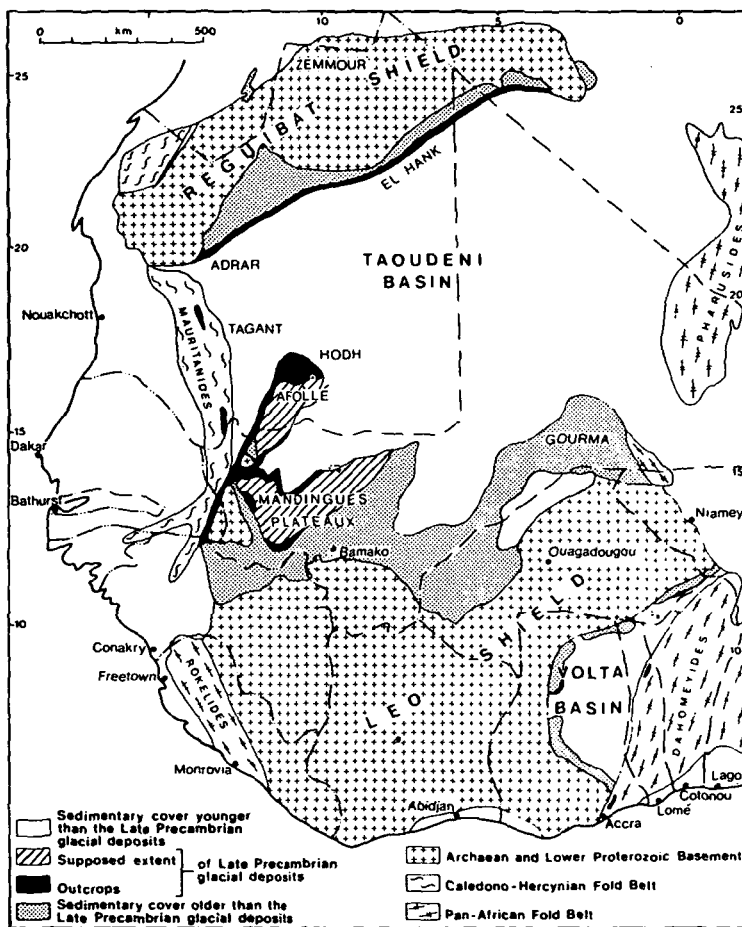


Figure 1. Schematic geological map of West Africa showing the distribution of the Upper Ordovician glacial deposits.

Figures 1 and 2 illustrate the approximate distributions of Late Precambrian and Late Ordovician tillite-bearing strata. They are largely terrestrial, and glacial erosional features are beautifully preserved. Deynoux (1978) made an exhaustive study of these deposits. The Taoudeni Basin is represented by a 2000–3000 m thick sedimentary cover on the West African craton, the strata ranging in age from about 1000 Ma to Carboniferous. The stratigraphic position of the tillites (denoted by triangles) is summarized as follows (Deynoux, 1978):

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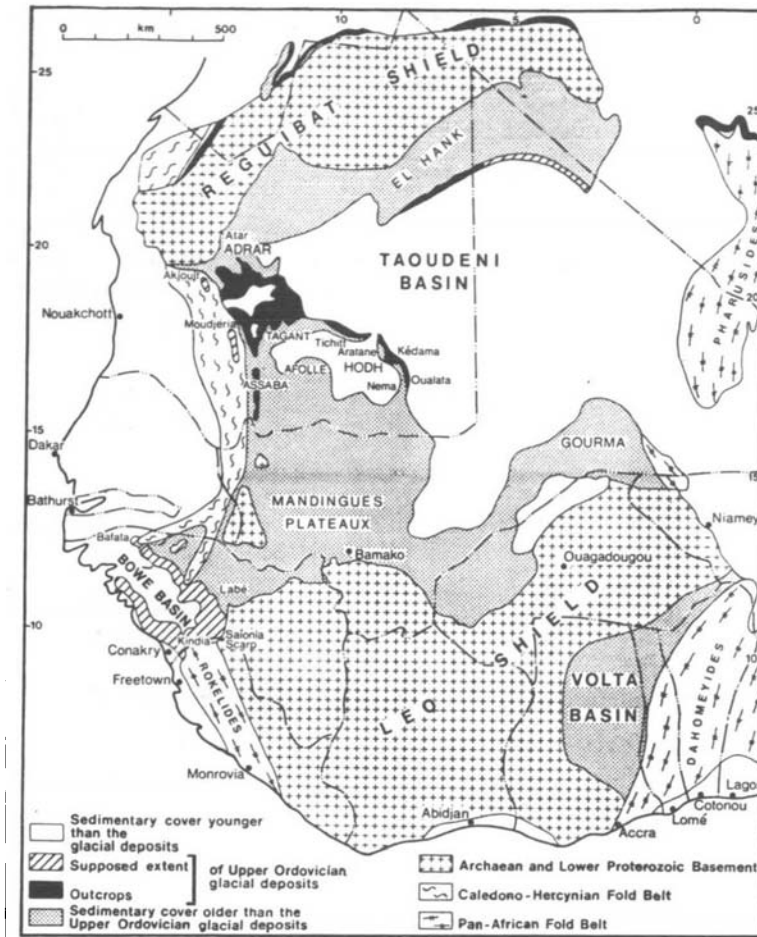


Figure 2. Schematic geological map of West Africa showing the distribution of the Late Ordovician glacial deposits.

- Supergroup 3 (c. 500 m)*
- Oued Chig Group (Silurian)
- ▲ Njakana-Abteilli Group (Upper Ordovician)
- Unconformity -
- Supergroup 2 (c. 1200 m)*
- Oujeft Plateau Group
- Atar Cliff Group (Cambrian)
- Teniagouri Group (595 ± 43 Ma)
- ▲ Jbéliat Group
- Unconformity -
- Supergroup 3 (c. 1300 m)*
- Assabet et Hassian Group (≥ 694 Ma)
- Unconformity -
- Tifounke Group
- Unconformity -

Atar Group (several radiometric dates ranging from
 775 ± 52 to 890 ± 35)

– Unconformity –

Char Group (998 ± 32 Ma)

– Unconformity –

Basement (c. 2800 Ma)

The Late Proterozoic tillites in the Taoudeni Basin are broadly coeval with the later of the two Varangian epochs in the North Atlantic region (Hambrey, 1983). The Late Ordovician tillites belong to a short-lived but extensive phase of continental glaciation, which affected much of Gondwanaland and adjacent areas.

References

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- Deynoux, M. & Trompette, R. 1981 (a). Late Precambrian tillites of the Taoudeni Basin, West Africa. Paper A19 in *Earth's Pre-Pleistocene Glacial Record* (ed. M. J. Hambrey and W. B. Harland). Cambridge: Cambridge University Press.
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- Hambrey, M. J. 1983. Correlation of Late Proterozoic tillites in the North Atlantic region and Europe. *Geol. Mag.* **120**, 209–32.

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