

LETTER TO THE EDITOR

Comment on "The Fossil Coleoptera of the Two Creeks Forest Bed, Wisconsin," by Alan V. Morgan and Anne Morgan

The authors (Morgan and Morgan, 1979) of the above-cited article and the authors (Evenson, Farrand, Eschman, Mickelson, and Maher, 1976) of the revised late Wisconsinan time- and rock-stratigraphic terminology used in the discussion of the Two Creeks Forest Bed site note with concern errors which have appeared in the stratigraphic nomenclature cited in the paper by Morgan and Morgan (1979).

The errors should be corrected since they are a misuse of formal stratigraphic terminology. Particular concern is expressed because the revised terminology proposed by Evenson (1973) and Evenson *et al.* (1976) has been challenged by some (Black, 1979; Willman *et al.*, 1975; Wickham *et al.*, 1978) and accepted by others (Dreimanis, 1977; Occhietti and Hillaire-Marcel, 1977; Bowen, 1978) in both national and international publications. Without correction, these errors will surely proliferate, particularly when presented in a journal with the reputation and distribution of *Quaternary Research*. The errors to which we refer take the form of simple, but important variations from the formally defined (Evenson *et al.*, 1976; Willman *et al.*, 1975), well-accepted stratigraphic nomenclature applied to Pleistocene deposits of the Great Lakes region.

Specifically, the time-stratigraphic terms "Two Creekan substage," "Great Lakean substage," and "Woodfordian substage" have appeared on p. 227. The correct spellings and capitalizations (as cited in the original manuscript submitted by Morgan and Morgan) are: "Two Creekan Substage" (Frye and Willman, 1960, p. 8; Willman *et al.*, 1975, pp. 229-230; Evenson *et al.*,

1976, pp. 417-419); "Greatlakean Substage" (Evenson *et al.*, 1976, p. 418), and "Woodfordian Substage" (Frye and Willman, 1960, pp. 6-7; Willman *et al.*, 1975, p. 227). (The authors appearing in parentheses following each item refer to the original definition and important discussions.)

The rock-stratigraphic terms "Two Rivers till" and "Manitowoc till member" have also been modified from the original manuscript and are cited incorrectly on p. 227. The correct usages are: "Two Rivers Till" and "Manitowoc Till Member." In the original definition of the unit, Evenson (1973, p. 2290) used "Two Rivers till," but later (Evenson *et al.*, 1976) adopted "Two Rivers Till" to bring the usage into conformity with the Code of Stratigraphic Nomenclature. The Illinois State Geological Survey (Lineback *et al.*, 1974, p. 16; Wickham *et al.*, 1978, p. 14) uses "Two Rivers Till Member" because that organization considers this till a member of an unnamed formation. In both cases, the work "Till" should be capitalized. The Manitowoc Till Member (of the Wedron Formation) was named by Lineback *et al.* (1974, p. 16). Although their definition of this unit was intentionally restricted to the till within the Lake Michigan Basin (below water), they correlated the Manitowoc Till Member with the till directly under the Two Creeks Forest Bed at its type locality. Evenson and others (1976, p. 415) accepted this correlation and used the term "Manitowoc Till Member" for the till under the forest bed. However, subsequent work in eastern Wisconsin by L. J. Acomb, D. M. Mickelson, and E. B. Evenson (unpubl. data) and by M. C. McCartney and D. M.

Mickelson (unpubl. data) has prompted them to suggest restriction of the term "Manitowoc Till Member" to the till below the waters of Lake Michigan and to propose the informal term "Haven till" (note lower case "t" for an informal unit) for the till underlying the forest bed in the Two Creeks area of Wisconsin.

Finally, a point of clarification should be made concerning the use of the phrases "advance of the Valders ice" and "approaching Valders ice" (Morgan and Morgan, 1979, p. 237). In both cases the term "Greatlakean" should have been added in parentheses, or possibly substituted for "Valders" (the term used by West, 1961) since it was the intention of both authors to refer to the post-Twocreekan (Greatlakean) advance.

We feel that it is imperative that formal stratigraphic units be applied in a systematic manner. Capitalization and spelling (including word splitting) of formal stratigraphic nomenclature are not the prerogative of authors, reviewers, or editors. Proper usage of stratigraphic nomenclature is worth the trouble it requires and results in the evolution of consistent, specific, well-defined, and broadly accepted and understood units.

REFERENCES

- Black, R. F. (1979). Valders-Two Creeks, Wisconsin, reevaluated: The Valders Till is most likely Post-Twocreekan as originally defined. *Geological Society of America, Abstracts with Programs* 11, 389.
- Bowen, D. Q. (1978). "Quaternary Geology. A Stratigraphic Framework for Multidisciplinary Work." Pergamon, Oxford.
- Dreimanis, A. (1977). Correlation of Wisconsin glacial events between the eastern Great Lakes and the St. Lawrence Lowlands. *Geographie Physique et Quaternaire* 31, 37-51.
- Evenson, E. B. (1973). Late Pleistocene shorelines and stratigraphic relations in the Lake Michigan Basin. *Geological Society of America Bulletin* 84, 2281-2298.
- Evenson, E. B., Farrand, W. R., Eschman, D. F., Mickelson, D. M., and Maher, L. J. (1976). Greatlakean Substage: A replacement for Valderan Substage in the Lake Michigan Basin. *Quaternary Research* 6, 411-424.
- Frye, J. C., and Willman, H. B. (1960). Classification of the Wisconsinan Stage in the Lake Michigan Glacial Lobe. *Illinois Geological Survey Circular* 285, 1-16.
- Lineback, J. A., Gross, D. L., and Meyer, R. P. (1974). Glacial tills under Lake Michigan. *Illinois State Geological Survey Environmental Geology Note* 69, 1-46.
- Mickelson, D. M., and Evenson, E. B. (1975). Pre-Twocreekan age of the type Valders till, Wisconsin. *Geology* 3, 587-590.
- Morgan, A. V., and Morgan, A. (1979). The Fossil Coleoptera of the Two Creeks Forest Bed, Wisconsin. *Quaternary Research* 12, 226-240.
- Occhietti, S., and Hillaire-Marcel, C. (1977). Chronologie ¹⁴C Des Evenements Paléogéographiques du Québec Depuis 14,000 ans. *Geographie Physique et Quaternaire* 31, 123-133.
- West, R. G. (1961). Late and postglacial vegetational history in Wisconsin, particularly changes associated with the Valders readvance. *American Journal of Science* 259, 766-783.
- Wickham, J. T., Gross, D. L., Lineback, J. A., and Thomas, R. L. (1978). Late Quaternary sediments of Lake Michigan. *Illinois State Geological Survey Environmental Geology Note* 84, 1-26.
- Willman, H. B., Atherton, E., Buschback, T. C., Collinson, C., Frye, J. C., Hopkins, M. E., Lineback, J. A., and Simon, J. A. (1975). Handbook of Illinois stratigraphy. *Illinois State Geological Survey Bulletin* 95, 1-261.

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