



The value of micromorphology in soil classification

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Soil micromorphologists have now been active for over one hundred years with numerous publications, but they seem to have made little impact on soil classification. The intention is to discuss a number of situations where micromorphology could add extra precision and lead to the formulation of new concepts in soil classification. For example; the duripans in arid and semi-arid areas often contain a complex of properties that clearly indicate polygenesis but nowhere in current classifications are they described as being polygenetic. However the micromorphology leaves little doubt that these horizons have developed over a long period through a number of different climates. In current classifications these are diagnostic horizons but they differ from many mollic horizons that have a much simpler genesis. Perhaps there is the need for the concept of compound horizons which would include many duripans. A similar situation is found with spodic horizons. The friable yellowish-brown spodic horizons in most orthods have nothing in common with the very dark, massive horizon in humods but they are grouped together. There are chemical differences but the micromorphological differences are dramatic. The problem to be resolved is whether these differences warrant the creation of many different duripans and spodic horizons. The evidence in favour now seems overwhelming.