Umbric Subgroups in Inceptisols

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Soil Taxonomy - December 1975

- Umbrepts - recognized at the Suborder level
- Umbric epipedon at least 25 cm thick
- In Blue Ridge MLRA in mesic and frigid temperature regimes
- Tuckasegee series- 34,137 acres correlated to date
- Typic Haplumbrepts most common Subgroup

Tuckasegee Series - Haplumbrept

A1--0 to 9 inches; black (10YR 2/1) fine sandy loam; dark brown (10YR 3/3) dry; moderate fine and medium granular structure; very friable; many fine, common medium, and few coarse roots; 5 percent gravel by volume; few fine flakes of mica; strongly acid; clear smooth boundary.

A2--9 to 13 inches; dark brown (7.5YR 3/2) fine sandy loam; brown (7.5YR 4/2) dry; moderate coarse granular and weak fine and medium granular structure; very friable; common fine to coarse roots; 5 percent gravel by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary. (Combined thickness of the A horizon is 10 to 20 inches.)

Soil Taxonomy - December 1975

- Umbric Dystrochrepts - recognized at the Subgroup level
- Mainly in Blue Ridge MLRA in mesic temperature regime
- Tusquitee series- 146,348 acres correlated to date (more than 4X the acreage)
- Umbric Dystrochrepts most common Subgroup

Tusquitee Series - Umbric Dystrochrept

A1--1 to 8 inches; dark brown (7.5YR 3/2) loam; weak fine granular structure; very friable; many fine and medium roots; 2 percent quartz gravel up to 1 inch in diameter; few flakes of mica; strongly acid; clear wavy boundary. (6 to 10 inches thick)

A2--8 to 11 inches; dark yellowish brown (10YR 3/4) loam; weak medium granular structure; very friable; common medium and coarse roots; 2 percent quartz gravel up to 1 inch in diameter; few flakes of mica; moderately acid; clear wavy boundary. (0 to 5 inches thick)

Keys to Soil Taxonomy 8th Edition 1998

- Moisture regimes added to Suborder level
- Dystrochrepts ✍ Dystrudepts
- Ochric epipedon no longer diagnostic at Suborder for MLRA 130
- Haplumbrepts ✍ Dystrudepts
- Now mainly Humic Dystrudepts

Keys to Soil Taxonomy 8th Edition 1998

- Former Typic Dystrochrepts and Umbric Dystrochrepts now in same Subgroup
- Loss of 1,356,544 acres of soils formerly recognized as Umbric Dystrudepts
- Inability to query and do interpretative maps based on classification
- Important in estimating soil organic carbon

Try to explain it in the OSD

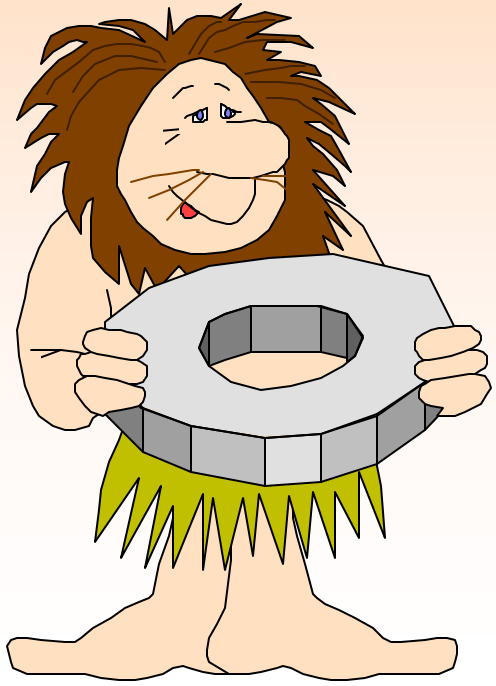
Ochric epipedon - The zone from the surface to a depth of 12 inches (Oi and A horizons) The mineral soil materials (A horizon) of the ochric epipedon of Cashiers soils have properties similar to an umbric epipedon except for thickness. This feature is a result of the influence and interaction of a number of factors including aspect, climate, elevation, and vegetation. This feature was formerly identified at the subgroup level in earlier editions of Soil Taxonomy. It remains as series criteria in the Blue Ridge (MLRA 130) because of its distinguishable influence on plant growth and diversity.

Let's try and fix it!

- Former soil scientist Richard Mayhugh communicated with me about doing something about it
- I directed him to MO 18 Leader Bill Craddock
- PROPOSAL 2 – Submitted by Roy Vick, Bill Craddock and Richard Mayhugh

Not exactly what we had in mind

- Humic Dystrudepts ✍ Umbric Dystrudepts
- Typic Dystrudepts ✍ Humic Dystrudepts
- Confusing enough?



New Proposal #2 (Alternative)

- Place all the dark surface soils in the same category
- Make the distinction at the series level

Haplumbrepts and Umbric Dystrochrepts

Humic Dystrudepts

New Proposal #2 (Alternative)

- Simply speaking

  Instead of requiring a mollic or umbic epipedon.....

  Just 18 cm of dark surface needed

Comparison

- Both achieve the same end result
- Both address all Inceptisols affected
- Mayhugh version - 62 revisions to Inceptisols
  - Swapping of Umbric and Humic would lead to confusion
- Vick & Craddock version - 25 revisions to Inceptisols - criteria used for Umbric subgroups from 7th edition of Keys

Summary

- MOs 14, 18 and NCSS in North Carolina wish to see a fix to the Keys to Soil Taxonomy
- We want to have the former Umbric Dystrochrepts recognized at a category above the series level
- I submit this alternative to Proposal #2 for consideration