

# OCCURENCE OF PODZOLIC SOILS WITH REVERSED Bh AND Bs HORIZONS ON THE PLATEAU DE MILLEVACHES (Massif Central, France)

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Soils with an ochreous Bs horizon above a black Bh horizon were observed on the subsommital surfaces of the "Plateau de Millevaches". Figure 1 shows the position of these soils in the landscape with reference to the other soils. The study of the particule size distribution in all horizons along the slope demonstrated that the Bh and Bs horizons have developed in two different materials (fig. 5).

Amorphous materials in the Bh horizons are organic and aluminous (Table 2). The Bs horizons contain organic matter, amorphous iron, aluminium and silica.

The development of these soils involves more than one pedogenetic phase. A first phase would be a strong podzolisation process leading to the formation of the black aluminous Bh horizons. Podzol profiles developed during this phase were partially eroded and covered with new colluvial materials. A moderate podzolization process, then affects these new materials leading to the formation of the Bs horizons.

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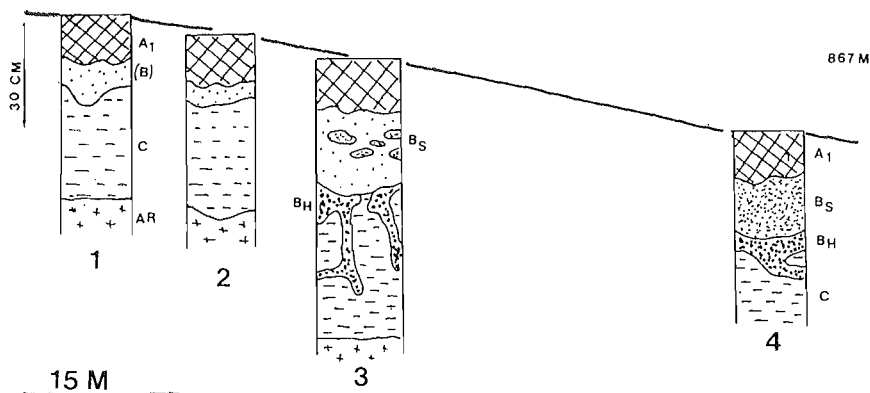


Figure 1 : Topographic situation and morphological characters of the studied soils.

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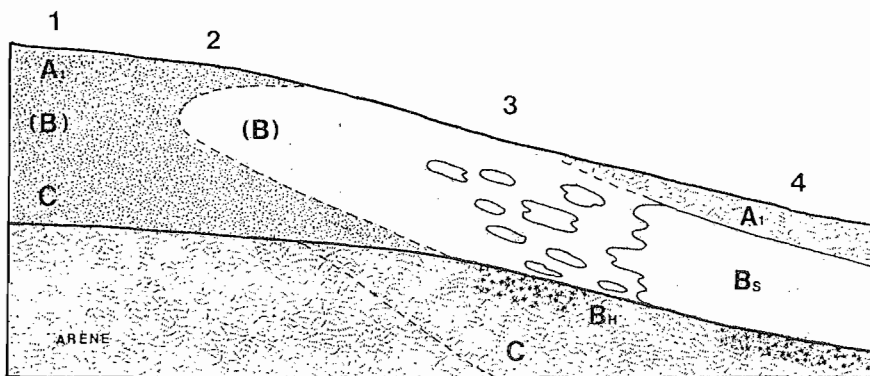
**Table 2 :  $\text{Fe}_2\text{O}_3$ ,  $\text{Al}_2\text{O}_3$  and  $\text{SiO}_2$  extracted by differents reagents (p. cent of 105° C dry soil).**

CBD : citrate bicarbonate dithionite

OX : oxalate d'ammonium

pyro : pyrophosphate de sodium

Profils Horizons	$\text{Fe}_2\text{O}_3$ pyro	$\frac{\text{Fe}_2\text{O}_3 \text{ pyro}}{\text{Fe}_2\text{O}_3 \text{ CBD}}$	$\text{Fe}_2\text{O}_3$ CBD	$\text{Al}_2\text{O}_3$ OX	$\text{SiO}_2$ OX
1 (B)	0,20	0,33	0,60	1,63	0,38
2 (B)	0,70	0,58	1,20	1,40	0,59
3 (B)	0,39	0,53	0,73	1,07	0,46
3 Bs	0,96	0,74	1,29	1,36	0,52
4 Bs	1,02	0,72	1,42	2,53	0,94
3 Bh	0,29	0,67	0,43	1,50	0,36
4 Bh	0,33	0,67	0,49	2,35	0,53



**Figure 5 : Spatial distribution of the different materials in the studied toposequence.**