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Stability and Functions of Mountain Phosphorites Rock Soils of Mongolia

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The learning of natural ecosystems advanced on phosphorites and dolomites with marl and hlorite- fillite layers of Hubsugul phosphorite basin shales deposites of Mongolia vend-kembrium of age is represents of doubtless interest. The diversity of litological composition of pedogenic rooks appreciably determines the development of a wide spectrum of litological soils of this terrain, which are formed on rather loose ver derivations, structure and constitution of which are complicated by course of cryossolifluction processes. The objects for learning are mountain soil's geosystems, which were developed on the native diurnal surface outputs of Ongolignur Mongolian Hubsugul deposite basin phosporites rocks. .The morphology and genesis peculiarities of mountain soils developed on day surface phosphorite outcrops of Hubsugul phosphorites deposits basin of Mongolia are studied. The new actual information about the weakly investigated soils is obtained. The influence of mountain-zone component, intrazonal factors, lithology and cryogenesis on pedogenesis, pedochemistry and soil properties of research terrain is established. Geological features and natural conditions of the region have determined the peculiarity of its soil cover. The most notable feature is a low energy level of soil formation. We researched soils of basic polygons in tundra, forest and steppe geosystems of south-west part of Prihubsugul region. Investigated soils are characterized by a plenty of total and mobile phosphorus, that determine their original properties. Synergistic action of processes of cryogenic disintegration, dissolution and total removal of dissolved products results in crushing of hard phosphorite rock to the size of powder and decrease of the bulk density. The weathering of phosphorites, which refer to the category of silicate-carbonate rooks, is lead to silicate component significant accumulation in a course of dissolution and leaching both carbonate and phosphate material, and also - to residual accumulation of clay minerals and silty organic matter. There is a strong lateral effuent of substance in mountains but there are not favourable conditions for drowing of phosphate disperse areals. Carbonatic geochemical farrier represented by products of tranformation of dolomites and limestones has developed around geosystems under investigation. A very little content of mineral phosphorus in the water of Hubsugul lake and rivers of Prihubsugul region, is probably in direct connection with this. The soil cover of Prihubsugul region has complex structure. Alongside with "geomorphological" model on the extensive spaces of tundra, forest and steppe landscapes the model of "climate genesis zones of pedogenesis ", controled and complicated by different quantity properties of pedogenic rooks, or litogenic matrix of pedogenesis is realized. In the process of simplification of informational - power structure of mineral matter the essential convergence of base properties series, which characterized by duration of pedogenic rook interaction with biotic and abiotic components of ecosystem is watched. By least “reflectority” are differ soils on clean (only) carbonate rooks, which weathering does not change chemizm of pedogenesis process. In much greater degree “sensority”and reflectority” is inherent in soils on silicate-carbonate rooks. In Prihubsugul mountain conditions matrix by their virtue bioclimatic “reflectority” determine of pedogenesis directions in the given climate, derivating to litogenic spectrum of soils of different carbonate and phosphate degree, complicated by stratigrafical and faccial variability of phosphate-(silica)-carbonate rooks in conditions of Prihubsugul mountain ecosystems with the open-ended circulation of materials. Around investigated geosystems it is advanced carbonate geochemical barrier, which has creating unfavorable conditions for growth of geographic ranges diffusion of phosphate dispersion and instabilization “phosphatozems” as a result of their possible industrial desintegration. Baikal-Hubsugul bazin refers to terrains, which stability development has not only national, but also large international value. It is necessary to give priority notice within the framework of the international strategies of ecological policy to such terrains.

Keywords: phosphorites soils, Baikal-Hubsugul basin, topsoil, phosphorous deposits, litogenic matrix, pedogenesis, weathering, mountain landscapes, preservation, Mongolia