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Clay Mineral Society Report of nomenclature committee 1969–1970

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THE CMS Nomenclature Committee for 1969–70 has prepared a Summary Report of previous recommendations of this Committee and of the International CIPEA and AIPEA Nomenclature Committees. The report is designed to provide a convenient capsule summary for the Society membership of nomenclature recommendations that are scattered through the literature.

The Committee also has considered additional problems of nomenclature, for which the following recommendations are proposed.

1. In addition to our previous definitions of *plane*, *sheet*, and *layer* (Brindley *et al.*, 1968), the terms *unit* or *unit structure* are recommended for description of the complete structural assemblage. A *unit* or *unit structure* contains one or more chemical formula units. Thus, a kaolinite unit structure consists only of a 1:1 layer, but a vermiculite unit structure consists of a 2:1 layer plus the interlayer hydrated cations. It is recommended further that the usage of 2:1:1 or 2:2 type layers for chlorite be discontinued. A chlorite unit structure consists of a 2:1 layer plus an interlayer hydroxide sheet. This emphasizes the similarity of chlorite to other clay minerals containing interlayer material.

2. Clay minerals belong to the larger family of phyllosilicates. The following structural and chemical definition of this family is suggested. *Phyllosilicates* contain

continuous two-dimensional tetrahedral sheets of composition T_2O_5 in which individual tetrahedra are linked with neighboring tetrahedra by sharing three corners each. The fourth tetrahedral corner may point in any direction. Tetrahedral sheets are linked in the unit structure to octahedral sheets, groups of coordinated cations, or individual cations.

This definition differs from that adopted by the AIPEA Nomenclature Committee (Pedro, 1970) in that it eliminates layer-like physical properties as a criterion. This change allows palygorskite and sepiolite to be considered as true phyllosilicates, and excludes layer-like structures in which more or less than three corners are shared in the tetrahedral net. A category of *pseudo-phyllosilicates* is recommended for those minerals that deviate from the above definition only slightly, and that are closer structurally and chemically to phyllosilicates than to any other family. Examples include the minerals astrophyllite, lamprophyllite, bafertisite, haradaite, zussmanite, zeophyllite, prehnite, tobermorite, riversideite, and plombeite.

3. The Committee's previous endorsement of the recommendation of Forman, Kodama, and Maxwell (1967) that *clintonite* has priority over other trioctahedral brittle mica species names is revised to stipulate that clintonite refers only to Li-poor. Ba-poor brittle mica species. *Bityite* (Li-Be rich) and *anandite* (Ba-Fe rich) appear to be other valid trioctahedral species (Schaller, Carron, and Fleischer, 1967; Pattiaratchi, Saari, and Sahama 1967). *Ephesite*, described originally as a Li–Na trioctahedral brittle mica (Schaller *et al.*, 1967), is described better as a true mica with a layer charge per formula unit of unity.

4. The attention of the Society membership is directed to the description of several new species of phyllosilicates appearing in the recent literature and to recent decisions of the IMA Commission on New Minerals and Mineral Names.

New species

Hendricksite = trioctahedral Zn-mica (Frondel and Ito, 1966; Frondel and Einaudi, 1968).
Anandite = trioctahedral Ba-Fe brittle mica (Pattiaratchi, Saari and Sahama, 1967; Fleischer, 1967).
Nimite = Ni-chlorite (Hiemstra and de Waal, 1968a; Fleischer, 1969b).
Willemseite = Ni-talc (Hiemstra and de Waal, 1968b; Fleischer, 1969b).
Percoraite = Ni-clinochrysotile (Faust, Fahey, Mason and Dwornik, 1969; Fleischer, 1969b).

Discredited species

Medmontite = chrysocolla + mica (Chukhrov, Zvyagin, Gorshkov, Ermilova, and Rudnitskaya, 1968, 1969; Fleischer, 1969a).

Relegated to synonymy

Schuchardite = Ni-chlorite (Fleischer, 1969b).

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