Myanmar arrived in 2000 with a short visit with critical sampling and acquisitions at the Nansibon alluvial deposits near Singkaling-Hkamti, Chin State, and then in 2002 with a visit to the Jade Tract and Nant Maw #109 primary jadeite jade mine near Hpakan. The three trips to Myanmar enabled extensive acquisition of a wide variety of jadeitite (commercially and scientifically interesting, e.g., odd colors, mylonitic textures, etc.) with preliminary research results forthcoming (e.g., Hughes et al., 2000; Sorensen and Harlow, 2001). Upon the opening of an exhibition in Tokyo, an invitation by Japanese colleagues to visit the jadeitite occurrence near Itoigawa, Niigata Pref., Japan, permitted collecting and acquiring about 100 specimens from this protected locality. Finally, expanded discoveries of jadeite jade in Guatemala have led to annual expeditions their, extensive collections, and the revelation that the Motagua Valley hosts two distinct jadeitite deposits, the products of plate collisions ~120 Ma and ~70 Ma brought in juxtaposition by left-lateral fault motion as the Caribbean plate has moved some 1000 km eastward relative to the North American plate (Harlow et al., 2004).

While studies of jades have demonstrated the importance of metasomatic fluids in their formation (see Harlow and Sorensen, in press), jade studies permit connecting mineralogy and geoscience to cultural objects, which is an excellent "hook" for attracting the attention of the media and public. Jade studies have been well reported in the media, and we anticipate using jade as the theme for a major museum exhibition to enhance the understanding of these interesting rocks, their properties, and their historical and cultural importance.

Ferrorosemaryite, $\Box NaFe^{2+}Fe^{3+}Al(PO_4)_3$, a new phosphate mineral from the Rubindi pegmatite, Rwanda

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Ferrorosemaryite, ideally $\Box NaFe^{2+}Fe^{3+}Al(PO_4)_3$, is a new mineral species from the Rubindi pegmatite, Rwanda. It belongs to the wyllieite group of minerals, which consists of Na-Mn-Fe-Al-bearing phosphates exhibiting a crystal structure topologically similar to the alluaudite structure (Moore & Molin-Case 1974). However, the ordering of cations in the wyllieite structure provokes a splitting of the M(2) and X(1) sites of alluaudite into the M(2a) M(2b) and X(1a) X(1b) positions. Consequently, the C2/c space group of alluaudite transforms into $P2_1/n$ in wyllieite, with no change of the unit-cell parameters, and with a structural formula which corresponds to $X(2)X(1a)X(1b)M(1)M(2a)M(2b)(PO_4)_3$.

In granitic pegmatites, particularly in the beryl-columbite-phosphate subtype of the rare-element pegmatites, wyllieite-type phosphates display chemical compositions ranging from $Na_2(Mn,Fe^{2+})Fe^{2+}Al(PO_4)_3$ to $\Box Na(Mn,Fe^{2+})Fe^{3+}Al(PO_4)_3$, with K^+, Ca^{2+} or Mn^{2+} replacing Na^+ on the X(2), X(1a) and X(1b) sites, Li^+, Mg^{2+} or Zn^{2+} replacing iron on the M(2a) site, and Mg^{2+} or Fe^{3+} replacing Al^{3+} on the M(2b) site, where É represents a lattice vacancy. The crystal chemistry of these phosphates has been investigated in detail by Moore & Ito (1979), who proposed a revision of their nomenclature. According to these authors, the name wyllieite corresponds to $Na_2MnFe^{2+}Al(PO_4)_3$, whereas the name rosemaryite designates the more oxidized compositions, such as $ÄNaMnFe^{3+}Al(PO_4)_3$. The prefix ferro- is then added if Fe^{2+} dominates in the M(1) site, thus leading to ferrowyllieite, $Na_2Fe^{2+}{}_2Al(PO_4)_3$ (Moore & Ito 1979). The name qingheiite has been introduced by Zhesheng et al. (1983) for the Mg-rich equivalent of wyllieite, $Na_2MnMgAl(PO_4)_3$. The transition from wyllieite to rosemaryite corresponds to the substitution mechanism $Na^+ + Fe^{2+} \rightarrow \Box + Fe^{3+}$, which takes place during the oxidation processes affecting the pegmatites.

Electron microprobe analyses of the mineral from Rubindi gave P_2O_5 46.00, Al_2O_3 9.12, Fe_2O_3 18.43, FeO 13.43, MgO 0.19, MnO 7.96, CaO 0.44, Na_2O 2.85, K_2O 0.01, total 98.43 wt. %. The resulting empirical formula, calculated on the basis of 3P, is $\Box_{1.00}(Na_{0.43}Mn_{0.31}Ca_{0.04}\Box_{0.22})_{1.00}(Fe^{2+}{}_{0.79}Mn_{0.21})_{1.00}(Fe^{3+}{}_{0.92}Fe^{2+}{}_{0.08})_{1.00}(Al_{0.83}Fe^{3+}{}_{0.15}Mg_{0.02})_{1.00}(PO_4)_3$. The ideal formula, $\Box NaFe^{2+}Fe^{3+}Al(PO_4)_3$, shows that this mineral is a new species in the wyllieite group. The name ferrorosemaryite was given because the species corresponds to the Fe^{2+} analogue of rosemaryite. Both the name and the mineral species were approved by the CNMMN-IMA (n° 2003-063).

Ferrorosemaryite occurs as large idiomorphic grains reaching 3 mm, embedded in scorzalite. Associated phosphate minerals are scorzalite, trolleite, montebrasite, bertossaite, brazilianite, with accessory berlinite, augelite, souzalite, variscite, eosphorite, triplite, wavellite and turquoise. The mineral is transparent and exhibits a dark-green to bronze colour, with a resinous lustre and with a greenish to brownish streak. It is non-fluorescent and shows a perfect {010} cleavage and a good $\{\bar{1}01\}$ cleavage. The estimated Mohs hardness is 4-4.5. The calculated density is 3.61 g/cm³. Ferrorosemaryite is biaxial negative, with n_α = 1.730(5), n_β = 1.758(7), and n_γ = 1.775(5) (λ = 590 nm). Pleochroism is from dark green (*X*) to dark brown (*Z*). The