Comments on 'Chromium-rich kyanite in an eclogite from the Rouergue area, French Massif Central': Al^{vi}-rich amphibole

In a recent account in this journal Delor and Leyreloup (1986) have described a high-pressure eclogite assemblage with Cr-rich kyanite, garnet, omphacite, epidote and quartz in which a magnesio-hornblende aggregate occurs in the kyanite-free garnet cores. The magnesio-hornblende analysis (Delor and Leyreloup, 1986) is remarkable for containing the maximum possible Al^{vi} (0.699) for its Si^{iv} (7.248) and Al^{iv} (0.752) contents, plotting exactly on the line of maximum Al^{vi} in the calcic amphibole system (Leake, 1971). It has been demonstrated (Leake, 1971) that the maximum possible Al^{vi} in a calcic amphibole is only achieved in amphiboles crystallized under unusually high pressures in an exceptionally aluminous environment and that such Al^{vi} substitution favours high Mg^{2+} over Fe^{2+}. The analysed magnesio-hornblende therefore almost certainly developed during the high-pressure metamorphic stage even if it did not grow at the precise pressure maximum. Thus the evidence from the amphibole composition strongly supports the suggestion of Delor and Leyreloup (1986) that this amphibole developed during the eclogite formation and is quite different from the later edenitic amphibole-forming stage.

References

Delor, C. P., and Leyreloup, A. F. (1986) *Mineral. Mag.* **50,** 535–7.

Leake, B. E. (1971) Ibid. **38,** 389–407.

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