Powdery deposits of pale green chalcosiderite occur on variscite on a few specimens.

Salvador and Fayos (1972) recognise two structural variants of variscite which they term 'Lucin-type' and 'Messbach-type'. The two types appear to share the same space group, but the unit cell of 'Messbach-type' has doubled length along the *c*-axis. The distinction is attributed to differing arrangement of structural water. All variscite specimens from Gunheath Pit so far examined (including powdery variscite from the spherulite cores) are of 'Lucin-type'. Globular variscite from Highdown Quarry, Philleigh, Devon, examined by XRD as part of this study, appears to be a mixture of 'Lucin' and 'Messbach' types. Representative specimens of variscite and metavariscite from Gunheath Pit have been deposited at the University Museum, Oxford.

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KEYWORDS: variscite, metavariscite, St Austell, Cornwall.

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An unnamed platinum-group mineral from the Iluma Hill mine, Tanzania

IN October 1994, one of the authors (H.B.) visited central Tanzania to collect some data on the geology of the gold mining district in the Dodoman Basement. The area lies within the Tanzanian shield (Stockley, 1948) and consists of schists, amphibolites, quartzites, migmatitic gneisses, contaminated granitoids and intrusive granites. Gold was discovered in this region in 1932. In 1992 mining was started by artisans at Iluma Hill mine near Iluma about 120 km W of Dodoma. The gold ore occurs as a primary mineral in quartz veins hosted by granites, and as eluvial, alluvial grains in palaeo-placers. The primary gold appears as rounded grains between 50 and 400 μm in size and is associated with mm-sized crystals of hematite replacing magnetite and with small subangular grains of pyrite and chalcopyrite. One gold grain (175 μm across) is intergrown with a nearly triangular grain of a so far unknown mineral 25 μm in size. Under reflected light in air, this mineral shows a creamy colour with a brownish tinge. No bireflectance or anisotropy were observed. Two quantitative microprobe analyses (CAMEBAX Microbeam) show that the mineral belongs to the Pd-As-Sb system and has the almost ideal formula $Pd_8(As,Sb,Te)_3$ (Table 1).

TABLE 1. Microprobe analyses of palladium arsenide-antimonide

wt.%						atomic proportions				
Pd	Ir	As	Sb	Te	Sum	Pd	Ir	As	Sb	Te
74.10	0.10	10.20	13.66	1.77	99.83	7.99	0.01	1.56	1.29	0.15
74.70	0.17	10.20	13.37	1.68	100.12	8.03	0.01	1.56	1.26	0.15

Ru, Rh, Os, Pt, Fe, Cu, Ni, S, Se and Bi below the detection limit

The data differ from those of arsenopalladinite (Clark *et al.*, 1974; Cabri *et al.*, 1977) and stillwaterite (Cabri *et al.*, 1975) in its high antimony and tellurium content, suggesting a composition close to that of isomertieite (Clark *et al.*, 1975). It was not possible to obtain X-ray data for the phase because of the small size of the grain. Therefore only the interesting discovery of a Pd-As-Sb mineral from Tanzania can be reported.

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