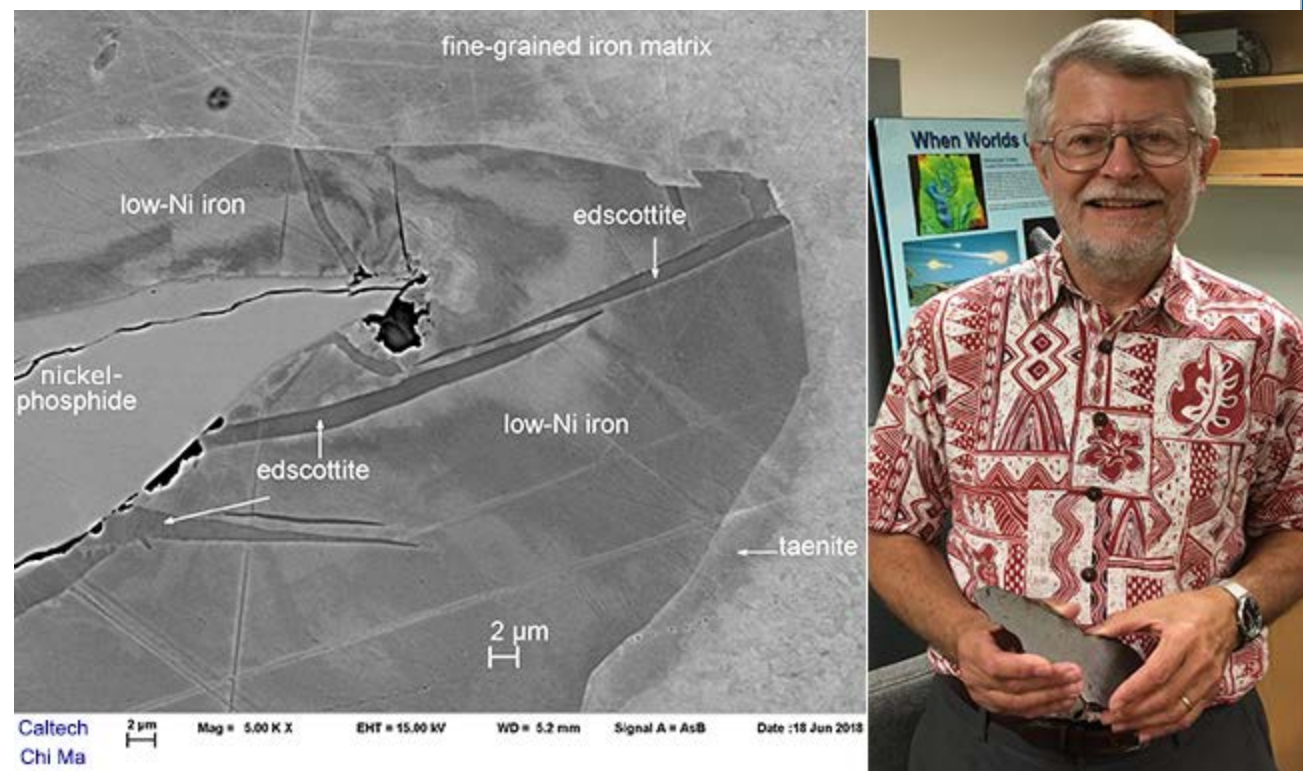


New Mineral: Edscottite

The first natural occurrence of the iron carbide Fe_5C_2 has been identified in the Wedderburn iron meteorite [Data link from the [Meteoritical Database](#)] and has been named edscottite, as reported in the *European Journal of Mineralogy* (issue 31) and *American Mineralogist* (volume 104, issue 9). Approved by the *International Mineralogical Association's Commission on New Minerals, Nomenclature, and Classification*, the name honors Dr. Edward R. D. Scott, Emeritus Professor at the Hawai'i Institute of Geophysics and Planetology (**HIGP**) at the University of Hawai'i at Mānoa. Dr. Scott is a leading authority on the geochemistry, mineralogy, and petrology of iron meteorites, and also a friend of **PSRD** whose research and writing on meteorites have appeared in our pages.

Edscottite formed as lath-shaped or platy single crystals (15–40 μm long) in kamacite (an iron-nickel mineral with low nickel content that, along with taenite, is responsible for the **Widmanstätten pattern** in iron meteorites). The edscottite crystal shapes suggest they grew rapidly after supersaturation of carbon.

Dr. Scott and Dr. Stuart O. Agrell identified the Fe_5C_2 iron carbide chemically while studying Wedderburn in 1971, but the technology was not yet available to thoroughly characterize its structure and associated phases. Dr. Chi Ma of Caltech and Dr. Alan Rubin of the University of California at Los Angeles performed the new analyses needed to verify and name the new mineral.



[LEFT] Backscatter electron microscope image of new mineral, edscottite, from a sample of the Wedderburn iron meteorite. Image courtesy of [Chi Ma, Caltech](#). [RIGHT] Dr. Edward Scott, namesake of new mineral. Image courtesy of HIGP.

See References:

- Ma, C. and Rubin, A. E. (2019) Edscottite, Fe₅C₂, A New Iron Carbide Mineral from the Ni-rich Wedderburn IAB Iron Meteorite, *American Mineralogist*, v. 104(9), p. 1351-1355, doi: 10.2138/am-2019-7102. [[abstract](#)]
- Ma, C. and Rubin, A. (2019) Edscottite, IMA 2018-086a. CNMNC Newsletter No. 47, February 2019, page 202; *European Journal of Mineralogy*, v. 31, p. 197-202, doi:10.1127/ejm/2019/0031-2839. [[open access pdf](#)]

See also:

- [Edward R. D. Scott](#) publications on Google Scholar.
- Scott E. R. D. and Agrell, S. O. (1971) The Occurrence of Carbides in Iron Meteorites (abstract). 238 *Meteoritics*, v. 6, p. 312-313. [[NASA ADS entry](#)]

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September 2019

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