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## REFERENCES

- Barth, T. F. W. 1962: *Theoretical Petrology*, 2nd ed., 416 pp. John Wiley & Sons, Inc., New York.
- Bjørlykke, H. & Svinndal, S. 1960: The carbonatite and per-alkaline rocks of the Fen area. Mining and exploration work. In Holtedahl, O. (ed.) *Geology of Norway, Norges geol. undersøkelse* 208, 105–110.
- Eskola, P. 1920: Mineral facies of rocks. *Norsk geol. tidsskr.* 6, 143–194.
- Størmer, L. 1944: On the relationship and phylogeny of fossil and recent Arachnomorpha. *Skr. Norske Vidensk.-Akad. i Oslo, Mat.-naturv. Kl.*, 1944 no. 5, 158 pp.

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