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**To cite this article:** Ulf Bertil Andersson, Nils Jansson, Linda Wickström, Stefan Bergman, Risto Kumpulainen, Mark Johnson, Mats Olvmo, Stephen McLoughlin & Mikael Calner (2022) Emendment to the term complex in: “Guide for geological nomenclature in Sweden” (Kumpulainen 2016), GFF, 144:3-4, 151-151, DOI: [10.1080/11035897.2023.2201321](https://doi.org/10.1080/11035897.2023.2201321)

**To link to this article:** <https://doi.org/10.1080/11035897.2023.2201321>



Published online: 18 May 2023.



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## Emendment to the term complex in: “Guide for geological nomenclature in Sweden” (Kumpulainen 2016)

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**ARTICLE HISTORY** Received 6 April 2023; Accepted 6 April 2023

Since the publication of Kumpulainen (2016), the Committee have been alerted by the investigation and subsequent changes to the North American Stratigraphic Code concerning the lithodemic unit “complex” (Easton et al. 2016; North American Commission on Stratigraphic Nomenclature (NACSN) 2017). These changes concern the introduction of the nomenclature unit “Intrusive Complex”. In the original version (NACSN 1983), as well as in the Swedish Guide for nomenclature (Kumpulainen 2016), the unit “complex” is defined as containing at least two genetic classes of rocks, i.e., igneous, sedimentary, or metamorphic.

Following the first versions of the nomenclature codes/guides it has become clear that the geological complexity of igneous rocks on various scales is such that there is a need to allow the use of “complex” for rocks of purely magmatic origin. Therefore, in agreement with NACSN (2017), we have agreed on the following emendment to Kumpulainen (2016) to facilitate the use of “complex” for purely igneous rocks when useful. The text is partly modified after NACSN (2017).

### Emendment to chapter “8.4 Complex”:

“Lithodemic classification includes also complex (*komplex*). In this classification a complex is a non-ranked lithodemic unit. A complex is typically used to organize and classify an assemblage of two or more genetically different rock types, i.e., igneous, metamorphic or sedimentary. Complex is used for mapping, organization and classification of rock bodies that are characterized by such a pervasive and consistent lithological heterogeneity that the single rock types are volumetrically too limited or too intimately intermingled to be mapped as discrete lithologic units. For example, a tectonic amalgamation of igneous, sedimentary and metamorphic rocks may form a structural complex. Another example is a volcanic environment where extrusive rocks with related sedimentary and intrusive components may occur intimately intermingled forming a volcanic complex.

**Intrusive complex.** Some areas of igneous rock consist of mixed intrusive and/or extrusive rocks composed of various igneous rock types and/or intrusive forms (e.g., pluton, stock, dyke) that are the result of the multiple, coeval (or near-coeval), emplacement events. Where there is no doubt that the complexity is due to the presence of multiple intrusive bodies (and related extrusive rocks), such a mixture may be designated an ‘intrusive complex.’ An intrusive complex differs from a volcanic complex in that it consists largely or entirely of intrusive rocks. Intrusive complex is unranked but, if useful, it may form part of ranked lithodemic units (e.g., an intrusive complex and at least one lithodeme could be grouped together into an intrusive suite).

The descriptive lithodemic terminology, as exemplified in chapter 6 may also be applied to a complex (i.e., ‘Dyke Complex’, ‘Sill Complex’, etc.). A complex is named and classified according to its geological context (structural, volcanic etc.) and its geographic distribution.”

### Disclosure statement

No potential conflict of interest was reported by the author(s).

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