

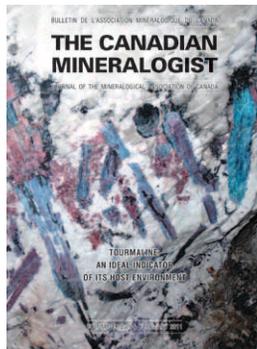


# Mineralogical Association of Canada

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## 2011: YEAR OF THE TOURMALINE

For mineralogy, petrology, and geochemistry, 2011 could be known as the "Year of the Tourmaline," with the publication of three significant series of papers covering a wide array of topics on this amazing mineral.



First, *Tourmaline: An Ideal Indicator of Its Host Environment* is the title of the February 2011 thematic issue of *The Canadian Mineralogist* (volume 49, part 1). This 406-page volume includes 24 articles highlighting a range of topics, including tourmaline crystallography, crystal chemistry, experimental stability, element partitioning, and tourmaline as a petrogenetic indicator. This collection of papers underscores the recent shift in tourmaline studies to the quantitative reconstruction of environmental conditions in the context of the host rock, using a combination of structural, compositional, and

crystallographic characteristics of the tourmaline-supergroup minerals. Aside from emphasizing the great progress and promise of tourmaline studies, the issue also pinpoints the challenges and obstacles remaining before tourmaline can be fully used as a quantitative indicator of the chemical and physical properties of its host environment. These obstacles include the paucity of directly measured thermodynamic data on tourmaline, the incomplete understanding of the controls on the partitioning of isotopes between tourmaline and coexisting phases, the lack of trace element partitioning data, the limitations of tourmaline in geochronological studies, and the partially realized potential of tourmaline in provenance studies. This thematic issue is an outgrowth of a successful special session at the 2009 GAC-MAC-AGU meeting in Toronto.

The second significant contribution to tourmaline studies arrives with the publication of *Nomenclature of the Tourmaline-Supergroup Minerals* in the May-June 2011 issue of *American Mineralogist* (volume 96,

numbers 5-6). This publication culminates eight years of effort by the Subcommittee on Tourmaline Nomenclature of the International Mineralogical Association's Commission on New Minerals, Nomenclature and Classification (IMA-CNMNC). Order out of the chaos of mineral names arrives. Tourmaline species are defined in accordance with the dominant-valency rule, such that in a relevant site the dominant ion of the dominant valence state is used for classification purposes. Tourmalines are divided into three groups that are based on the dominant occupancy of the X site (Na, Ca, or vacancy) and into several subgroups that can contain multiple species. Currently, the IMA-CNMNC recognizes 18 tourmaline species, with several additional new species likely forthcoming.

Culminating the Year of the Tourmaline is the October 2011 issue of *Elements* (volume 7, number 5). Tourmaline's importance to Earth's history will be explored through a series of articles covering topics such as its utility as a precious metal indicator; its desirability as a gemstone; its geological "life" through the magmatic, erosional, sedimentary, and metamorphic cycles; and its importance as a carrier of isotopes that can inform us on geochronologic and petrologic processes and, in some cases, provenance.

This series of publications, together with the many other tourmaline articles currently being published, point to a rich, vibrant, and productive future for tourmaline-related studies.

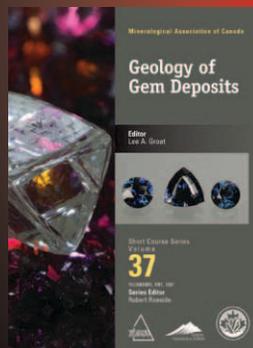
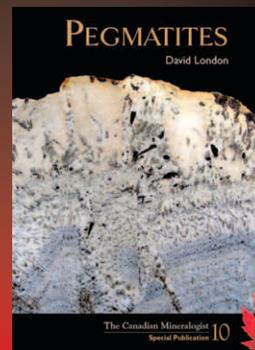
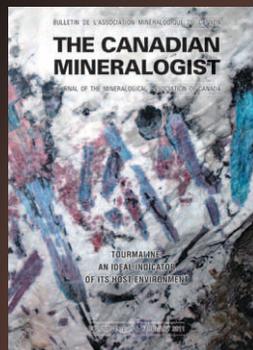
**Darrell Henry** (Louisiana State University)

**Vincent van Hinsberg** (University of Oxford)

**Horst Marschall** (Woods Hole Oceanographic Institution)

**Barb Dutrow** (Louisiana State University)

## Interested in Tourmaline? We have publications for you!



**TI 49-1 Tourmaline: An Ideal Indicator of Its Host Environment** – Editors: VJ van Hinsberg, DJ Henry, HR Marschall (2011)

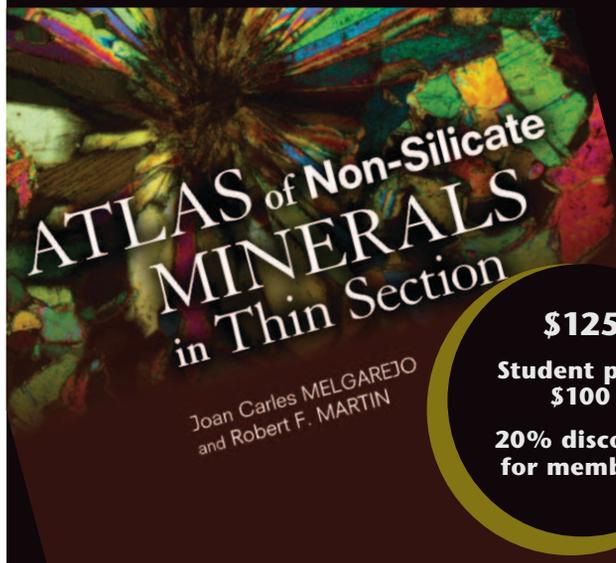
**SP 10 Pegmatites** – David London (2008)  
ISBN 978-0-921294-47-4, 368 pages

**SC 37 Geology of Gem Deposits** – Editor: Lee Groat (2007)  
ISBN: 978-0-921294-37-5, 288 pages, plus 24 color plates

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