



## Colour-change Gems Bibliography

The list below is a compilation of all items on gem materials that exhibit colour-change or photochromic behaviour published in *The Journal of Gemmology* since its beginning in 1947 through 2023. Articles are listed from most recent to oldest.

Articles that are more than approximately two years old are publicly available in the JoG archive at <https://gem-a.com/publications/the-journal-of-gemmology-archive>, and more recent articles are accessible to Gem-A Members at <https://gem-a.com/publications/the-journal-of-gemmology>.

**Gem Notes: Colour-change garnet showing blue colouration from Kamtonga, Kenya (2023)**

By Clemens Schwarzingger  
Volume 38, No. 6, 545–548

**Gem Notes: Photochromism and phosphorescence of tugtupite (2023)**

By Yujie Gao and Xueying Sun  
Volume 38, No. 5, 429–431

**Gem Notes: Photochromic scapolite from Baffin Island, Canada (2022)**

By Emmanuel Fritsch and Cassandre Moinard  
Volume 38, No. 2, 126–127

**Gem Notes: Alexandrite with an uncommon deep red colour (2021)**

By Riadh Zellagui and Christopher P. Smith  
Volume 37, No. 8, 762–763

**The discovery and naming of alexandrite and phenakite: Separating fact from fiction (2021)**

By Karl Schmetzer and Evgenii Vladimirovich Burlakov  
Volume 37, No. 5, 496–513

**Gem Notes: Horsetail-like inclusions in a colour-change garnet from Tanzania (2021)**

By Clemens Schwarzingger  
Volume 37, No. 5, 448–449

**Gem Notes: Colour-change garnet from Tanga, Tanzania (2020)**

By J.C. (Hanco) Zwaan  
Volume 37, No. 2, 133–134

**Gem Notes: Colour-change tephroite from South Africa (2018)**

By Jaroslav Hyršl  
Volume 36, No. 4, 292

**Colour-change axinite-(Mn) from Tanzania (2014)**

By Cara Williams, Bear Williams and Brendan M. Laurs  
Volume 34, No. 3, 191–102

**Titanium-bearing synthetic alexandrite and chrysoberyl (2013)**

By Karl Schmetzer, Heinz-Jürgen Bernhardt and Thomas Hainschwang  
Volume 33, No. 5–6, 137–148

**Synthetic alexandrites grown by the HOC method in Russia: internal features related to the growth technique and colorimetric investigation (2013)**

By Karl Schmetzer, Heinz-Jürgen Bernhardt, Walter A. Balmer and Thomas Hainschwang  
Volume 33, No. 5–6, 113–129

**Flux-grown synthetic alexandrites from Creative Crystals Inc. (2012)**

By Karl Schmetzer, Heinz-Jürgen Bernhardt and Thomas Hainschwang  
Volume 33, No. 1–4, 49–81

- Alexandrite and colour-change chrysoberyl from the Lake Manyara alexandrite-emerald deposit in northern Tanzania** (2011)  
By Karl Schmetzer and Anna-Kathrin Malsy  
Volume 32, No. 5–8, 179–209
- Measurement and interpretation of growth patterns in chrysoberyl, including alexandrite** (2011)  
By Karl Schmetzer, Heinz-Jürgen Bernhardt and Thomas Hainschwang  
Volume 32, No. 5–8, 129–144
- Colour-change garnets from Madagascar: variation of chemical, spectroscopic and colorimetric properties** (2009)  
By K. Schmetzer, H.-J. Bernhardt, G. Bosshart and T. Hainschwang  
Volume 31, No. 5–8, 235–282
- A colorimetric study of a tourmaline from Mozambique which shows a reverse alexandrite effect** (2006)  
By Yan Liu and B.A. Fry  
Volume 30, No. 3–4, 201–206
- The Usambara effect and its interaction with other colour change phenomena** (2006)  
By Asbjørn Halvorsen  
Volume 30, No. 1–2, 1–21
- Colour-change garnets from Madagascar: Comparison of colorimetric with chemical data** (2001)  
By Michael S. Krzemnicki, Henry A. Hänni and Eric Reusser  
Volume 27, No. 7, 395–408
- The cause of colour of the blue alexandrites from Malacacheta, Minas Gerais, Brazil** (2000)  
By M.V.B. Pinheiro, M.S. Basilio, K. Krambrock, M.S.S. Dantas, R. Paniago, A.I. Assunção and A.C. Pedrosa-Soares  
Volume 27, No. 3, 161–170
- Druses of synthetic alexandrite and synthetic phenakite from Russia** (1999)  
By Jaroslav Hyršl and Ivo Quintens  
Volume 26, No. 7, 447–449
- Colour hue change of a gem tourmaline from the Umba Valley, Tanzania** (1999)  
By Y. Liu, J.E. Shigley and A. Halvorsen  
Volume 26, No. 6, 386–396
- A colorimetric study of the alexandrite effect in gemstones** (1999)  
By Y. Liu, J.E. Shigley, E. Fritsch and S. Hemphill  
Volume 26, No. 6, 371–385
- Letter to the Editor** (1997)  
By Asbjørn Halvorsen and Brenda Jensen  
Volume 25, No. 7, 491–492
- Letter to the Editor** (1997)  
By K. Nassau  
Volume 25, No. 7, 491
- Characterization of alexandrite, emerald and phenakite from Franqueira (NW Spain)** (1997)  
By C. Marcos-Pascual and D.B. Moreiras  
Volume 25, No. 5, 340–357
- A new colour-change effect** (1997)  
By A. Halvorsen and B.B. Jensen  
Volume 25, No. 5, 325–330
- The location, geology, mineralogy and gem deposits of alexandrite, cat's-eye and chrysoberyl in Brazil** (1993)  
By Jacques Cassedanne and Maurice Roditi  
Volume 23, No. 6, 333–354
- The gemmological characteristics of Inamori synthetic cat's-eye alexandrite chrysoberyl** (1988)  
By John I. Koivula, Emmanuel Fritsch and Chuck Fryer  
Volume 21, No. 4, 232–236

- Letter to the Editor** (1989)  
By Karl Schmetzer  
Volume 21, No. 5, 329
- Alexandrite: Natural or synthetic?** (1988)  
By H. Bank, E. Gübelin, U. Henn and J. Malley  
Volume 21, No. 4, 215–217
- Colour-changing chromiferous tourmalines from East Africa** (1988)  
By Hermann Bank and Ulrich Henn  
Volume 21, No. 2, 102–103
- Blue colour-changing kyanite from East Africa** (1982)  
By G. Bosshart, E. Frank, H.A. Hänni and N. Barot  
Volume 18, No. 3, 205–212
- On monazite inclusions** (1981)  
By S. Hornytzkj  
Volume 17, No. 6, 373–380
- An unusual tourmaline** (1980)  
By Stephen R. Jones  
Volume 17, No. 1, 4–6
- Blue colour-change gem garnet from East Africa** (1975)  
By E.A. Jobbins, J.M. Saul, Anne E. Tresham and B.R. Young  
Volume 14, No. 5, 201–208
- A gem garnet from the island of Otterøy** (1971)  
By Jens Hysingjord  
Volume 12, No. 7, 296–300
- Random notes** (1954)  
By J.R.H. Chisholm  
Volume 4, No. 7, 292–300
- Selective reflection and its possible bearing on gemmology** (1947)  
By M.S.S. Lewis  
Volume 1, No. 4, 10–14