

OCTOBER 2020 - VOL. 84 (5), NO. 554

MINERALOGICAL MAGAZINE



JOURNAL OF THE MINERALOGICAL SOCIETY



MINERALOGICAL SOCIETY

CAMBRIDGE
UNIVERSITY PRESS

MINERALOGICAL MAGAZINE

ISSN 0026-461X

Principal Editors

Stuart J. Mills, *Museums Victoria, Melbourne, Australia*
Roger H. Mitchell, *Department of Geology, Lakehead University, Thunder Bay,
Ontario P7B 5E1, Canada*

(Manuscripts should be submitted on-line at <http://www.editorialmanager.com/minmag/>)

Structures Editor: Peter Leverett, *University of Western Sydney, Australia*

Production Editor: Helen C. Kerbey, *Mineralogical Society of Great Britain and Northern Ireland*

Associate Editors

Makoto Arima, *Yokohama National University, Japan*
Daniel Atencio, *University of São Paulo, Brazil*
Ferdinando Bosi, *Sapienza, University of Rome, Italy*
Sam Broom-Fendley, *Camborne School of Mines, UK*
Casey Bryce, *University of Bristol, UK*
Aniket Chakrabarty, *Indian Institute of Science Education and
Research Tirupati, India*
Andrew Christy, *University of Queensland, Australia*
Claire Corkhill, *University of Sheffield, UK*
Ian Coulson, *University of Regina, Canada*
Eimear Deady, *British Geological Survey, UK*
Giancarlo Della Ventura, *Roma Tre University, Italy*
Irina Galuskina, *University of Silesia, Poland*
G. Diego Gatta, *University of Milan, Italy*
Charles Geiger, *University of Salzburg, Austria*
Ian Graham, *University of New South Wales, Australia*
Edward Grew, *University of Maine, USA*
Jason Harvey, *University of Leeds, UK*
David Hibbs, *University of Sydney, Australia*

Mihoko Hoshino, *National Institute of Advanced Industrial Science
and Technology, Japan*
Anthony Kampf, *Natural History Museum of Los Angeles County,
USA*
Sergey Krivovichev, *St Petersburg State University, Russia*
František Laufek, *Czech Geological Survey, Czech Republic*
Martin Lee, *University of Glasgow, UK*
Juan Liu, *Peking University, China*
Juraj Majzlan, *University of Jena, Germany*
Leone Melluso, *University of Naples Federico II, Italy*
Koichi Momma, *National Museum of Nature and Science, Japan*
Thomas Mueller, *Georg-August-University Göttingen, Germany*
Katherine Pfaff, *Colorado School of Mines, USA*
Michael Rumsey, *Natural History Museum, UK*
Oleg Siidra, *St Petersburg State University, Russia*
Craig Storey, *University of Portsmouth, UK*
Elena Zhitova, *Institute of Volcanology and Seismology RAS,
Russia*
Runliang Zhu, *Guangzhou Institute of Geochemistry, China*

MINERALOGICAL SOCIETY

[Registered Charity No. 233706]

Officers and Council for 2019

President: B. W. D. Yardley

Treasurer: J. Harvey *P.R.O.:* P. Pogge von Strandmann *General Secretary:* J. M. Horák

Principal Editors of the Magazine: S. J. Mills, R. H. Mitchell

Principal Editor of 'Clay Minerals': G. E. Christidis

Ordinary Members of Council: J.F.W. Bowles, A. Bray, S. Broom-Fendley, H. Buss, F. Cooper, J. Darling, E. Deady, S. Gibson,
S.J. Kemp, C. Mottram, K. Olsson-Francis, C. Pearce, M. Smith, A. Thomson, E. Tomlinson, M. Widdowson, D. Wray

Office address: 12 Baylis Mews, Amyand Park Road, Twickenham TW1 3HQ, UK

Website: www.minersoc.org

Tel.: +44 (0)20 8891 6600; *Fax:* +44 (0)20 8891 6599; *e-mail:* info@minersoc.org

Mineralogical Magazine is published six times per year in February, April, June, August, October and December. The Journal is now primarily an online one.

The subscription price (excluding VAT) to *Mineralogical Magazine* for volume 84 (2020), which includes print and electronic access, is £792 (USA, Canada and Mexico US\$1026) and includes delivery by air; single parts are available at £153 (USA, Canada and Mexico US\$197) plus postage. The electronic-only price available to institutional subscribers is £614 (USA, Canada and Mexico US\$794). EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Orders, which must be accompanied by payment, may be sent to any bookseller or subscription agent or direct to the publishers: Cambridge University Press, UPH, Shaftesbury Road, Cambridge CB2 8BS, or in the USA, Canada, and Mexico to Cambridge University Press, Journals Fulfillment Department, 1 Liberty Plaza, Floor 20, New York, NY 10006, USA. Japanese Prices for institutions are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo, Japan.

All subscription enquiries should be sent to: journals@cambridge.org

Front cover picture: Ammoniotinsleyite, a new leucophosphate mineral species from the guano deposit at Pabellón de Pica, Iquique Province, Chile. Image shows aggregates of ammoniotinsleyite (pink) in association with gypsum and halite. FOV 0.7 mm. Photo: A.V. Kasatkin, cotype specimen. See Chukanov *et al.* (this issue).