

POLAR RECORD

A Journal of Arctic and Antarctic Research

VOLUME 53 NUMBER 268 JANUARY 2017



POLAR RECORD

A Journal of Arctic and Antarctic Research Journal of the Scott Polar Research Institute, University of Cambridge

Editor: DR NIKOLAS SELLHEIM

Book Reviews Editor: Andrian Vlakhov

Editor Emeritus: Ian R. Stone

Editorial Advisors:

Dr Patrick Arnaud, Vachères, France Dr Susan Barr, Oslo, Norway Prof Robert Barletta, University of Southern Alabama, USA. Prof William Barr, Calgary, Alberta, Canada Dr Peter Carey, Christchurch, New Zealand Dr Janice Cavell, Ottawa, Canada Prof Klaus J. Dodds, London, UK Prof Julian Dowdeswell, Cambridge, UK Dr Damian Gore, Sydney, Australia Dr Anna Stammler-Gossman, University of Lapland, Finland Dr Liisa Holmberg, Sámi Education Institute, Finland Gunhild Hoogensen Gjørv, University of Tromsø, Norway

© Cambridge University Press 2017.

Polar Record (ISSN 0032-2474) is published six times yearly — in January, March, May, July, September, November — the six issues making a volume. First published in January 1931, *Polar Record* appeared twice yearly until July 1954, three times yearly until September 1987 and four times yearly until 2014. Scholarly contributions are invited on virtually all subjects of polar interest.

Contributions

Authors must submit using the online submission and peer review system, Scholar One Manuscripts (formerly Manuscript Central) at http://mc.manuscriptcentral.com/ pol. If visiting the site for the rst time, users must create a new account by clicking on 'register here'. Once logged in, authors should click on the 'Corresponding Author Centre', from which point a new manuscript can be submitted, with step-by-step instructions provided.

Subscriptions

Orders, which must be accompanied by payment, should be sent to any bookseller or subscription agent, or direct to the publisher:

Cambridge University Press, Journals Fulfillment Department, UPH, Shaftesbury Road, Cambridge CB2 8BS, UK or

Cambridge University Press, Journals Fulfillment Department, 100 Brook Hill Drive, West Nyack, New York 10994–2133, USA.

The subscription price of volume 53, 2017, for electronic access, is: for individuals, £123.00 (US\$235.00 in USA, Canada, and Mexico), for institutions £353.00 (US\$651.00 in USA, Canada, and Mexico). 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. Japanese prices for institutions are available from Kinokuniya Company Ltd, PO Box 55, Chitose, Tokyo 156, Japan.

Information about *Polar Record* and all other Cambridge journals can be accessed via http:// www.cambridge.org/.

https://doi.org/10.1017/S0032247416000887 Published online by Cambridge University Press

Dr Julia Jabour, University of Tasmania, Australia Priv. Doz. Dr Cornelia Lüdecke, Munich, Germany Dr R.I.G. Morrison, Ottawa, Ontario, Canada Dr Maria Nakhshina, University of Aberdeen Prof Mark Nuttall, Edmonton, Alberta, Canada Dr Beau Riffenburgh, Llanarthne, Carmarthen, UK Dr Shiv M. Singh, National Centre for Antarctic and Ocean Research, India Prof Valdon Smith, Matieland, South Africa Dr Erki Tammiksaar, Tartu, Estonia Prof David W.H. Walton, Cambridge, UK Prof Oran R. Young, Santa Barbara, CA, USA Yulia Zaika, Lomonosov Moscow State University, Russian Federation

Copying

Polar Record is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA that are also registered with the CCC may copy material (beyond limits permitted by sections 107 and 108 of US copyright law) subject to payment to CCC of the per copy fee of \$16. This consent does not extend to multiple copies for promotional or commercial purposes. Code 0032-2474/2016. Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions. For all other use, permission should be sought from the Cambridge or the American Branch of Cambridge University Press (addresses below).

Advertising

Details of advertising in *Polar Record* may be obtained from the publisher.

CAMBRIDGE UNIVERSITY PRESS

- Published by the Press Syndicate of the University of Cambridge
- University Printing House, Cambridge CB2 8BS, United Kingdom
- 32 Avenue of the Americas, New York, NY 10013-2473, USA
- 477 Williamstown Road, Port Melbourne, Victoria 3207, Australia
- C/Orense, 4, Planta 13, 28020 Madrid, Spain
- Lower Ground Floor, Nautica Building, The Water Club, Beach Road, Granger Bay, 8005 Cape Town, South Africa