

111
G 37



THE
GEOLOGICAL
SOCIETY
OF AMERICA®

BULLETIN

ISSN 0016-7606 VOL. 126 NO. 11/12 NOVEMBER/DECEMBER 2014



For all you Lakers fans ...

p. 1387

Conoceras or Conodont? That is the Ordovician Question

p. 1551

Flashdance meets Riverdance

p. 1683



THE
GEOLOGICAL
SOCIETY
OF AMERICA®

BULLETIN

VOL. 126 • NO. 11/12 • P. 1385–1704 NOVEMBER/DECEMBER 2014

The Geological Society of America Bulletin is a leading international journal for major scholarly research in all branches of the earth sciences. Published continuously since 1890.

TABLE OF CONTENTS

PALEOCLIMATOLOGY

- 1387 **Rise and fall of late Pleistocene pluvial lakes in response to reduced evaporation and precipitation: Evidence from Lake Surprise, California**
Daniel E. Ibarra, Anne E. Egger, Karrie L. Weaver, Caroline R. Harris, and Kate Maher

GEOCHRONOLOGY

- 1416 **Paleozoic siliciclastic rocks from northern Victoria Land (Antarctica): Provenance, timing of deformation, and implications for the Antarctica-Australia connection**
Gianfranco Di Vincenzo, Antonietta Grande, and Federico Rossetti

TECTONICS

- 1439 **Exhumation of the North American Cordillera revealed by multi-dating of Upper Jurassic–Upper Cretaceous foreland basin deposits**
Clayton S. Painter, Barbara Carrapa, Peter G. DeCelles, George E. Gehrels, and Stuart N. Thomson
- 1531 **Late Paleozoic assembly of the Alexander-Wrangellia-Peninsular composite terrane, Canadian and Alaskan Cordillera**
Luke P. Beranek, Cees R. van Staal, William C. McClelland, Nancy Joyce, and Steve Israel
- 1654 **Two-phase subduction and subsequent collision defines the Paleotethyan tectonics of the southeastern Tibetan Plateau: Evidence from zircon U-Pb dating, geochemistry, and structural geology of the Sanjiang orogenic belt, southwest China**
T.N. Yang, Y. Ding, H.R. Zhang, J.W. Fan, M.J. Liang, and X.H. Wang

VOLCANOLOGY

- 1465 **Stratigraphy and structure of the Cañas Dulces caldera (Costa Rica)**
F. Molina, J. Martí, G. Aguirre, E. Vega, and L. Chavarría

NEOTECTONICS/PALEOSEISMICITY

- 1481 **Can flexural-slip faults related to evaporite dissolution generate hazardous earthquakes? The case of the Grand Hogback monocline of west-central Colorado**
Francisco Gutiérrez, Domingo Carbonel, Robert M. Kirkham, Jesús Guerrero, Pedro Lucha, and Vincent Matthews

SEDIMENTARY GEOLOGY

- 1495 **Piecing together the Ganges-Brahmaputra-Meghna River delta: Use of sediment provenance to reconstruct the history and interaction of multiple fluvial systems during Holocene delta evolution**
Steven L. Goodbred Jr., Penny M. Paolo, Mohammad Shahid Ullah, Russell D. Pate, Sirajur R. Khan, Steven A. Kuehl, Sunil K. Singh, and Walir Rahaman

1595 **Xigaze forearc basin revisited (South Tibet): Provenance changes and origin of the Xigaze Ophiolite**

Wei An, Xiumian Hu, Eduardo Garzanti, Marcelle K. BouDagher-Fadel, Jiangang Wang, and Gaoyuan Sun

PETROLOGY: METAMORPHIC

- 1511 **Middle Jurassic to earliest Cretaceous mid-crustal tectono-metamorphism in the northern Canadian Cordillera: Recording foreland-directed migration of an orogenic front**
R.D. Staples, D.C. Murphy, H.D. Gibson, M. Colpron, R.G. Berman, and J.J. Ryan

STRATIGRAPHY

- 1551 **Calibration of a conodont apatite-based Ordovician $^{87}\text{Sr}/^{86}\text{Sr}$ curve to biostratigraphy and geochronology: Implications for stratigraphic resolution**
Matthew R. Saltzman, Cole T. Edwards, Stephen A. Leslie, Gary S. Dwyer, Jeffrey A. Bauer, John E. Repetski, Anita G. Harris, and Stig M. Bergström

PETROLOGY: IGNEOUS

- 1569 **Multistage emplacement of the McDoogles pluton, an early phase of the John Muir intrusive suite, Sierra Nevada, California, by magmatic crack-seal growth**
Michael A. Stearns and John M. Bartley

QUATERNARY GEOLOGY/GEOMORPHOLOGY

- 1580 **Postglacial denudation of western Tibetan Plateau margin outpaced by long-term exhumation**
Henry Munack, Oliver Korup, Alberto Resentini, Mara Limonta, Eduardo Garzanti, Jan H. Blöthe, Dirk Scherler, Hella Wittmann, and Peter W. Kubik

- 1683 **Arroyo channel head evolution in a flash-flood-dominated discontinuous ephemeral stream system**
Stephen B. DeLong, Joel P.L. Johnson, and Kelin X Whipple

PETROLOGY

- 1614 **Crustal attenuation as a tracer for the emplacement of the Beni Bousera ultramafic massif (Betico-Rifean belt)**
Antonio M. Álvarez-Valero, Oliver Jagoutz, Jessica Stanley, Christian Manthei, Abdelkader El Maz, Moukadiri, and Alison Piasecki

PRECAMBRIAN GEOLOGY

- 1625 **Did a proto-ocean basin form along the southeastern Rae cratonic margin? Evidence from U-Pb geochronology, geochemistry (Sm-Nd and whole-rock), and stratigraphy of the Paleoproterozoic Piling Group, northern Canada**
Natasha Wadicka, Marc R. St-Onge, David Corrigan, David J. Scott, and Joseph B. Whalen

AUTHOR INDEX

1702