



RECENT ARTICLES PUBLISHED IN EXPLORE

The following abstract is for an article that appeared in issue 183 (June 2019) of the *Explore* newsletter.

“Gold Dispersion in Transported Cover Sequences especially in Chemical (Palaeoredox Front) and Physical (Unconformity) Interfaces Linked to the Landscape History of Western Australia”

Ravi Anand¹, Walid Salama¹

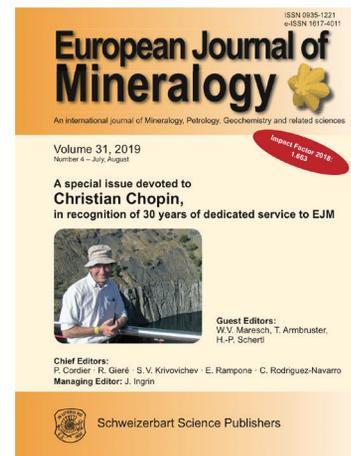
This paper examines how geochemical dispersion may be used in areas of deep transported cover to locate buried mineralisation in the Yilgarn Craton and the Albany Fraser and Paterson orogens of Western Australia. Transported cover is exotic or redistributed material of continental origin that blankets weathered and fresh bedrock, effectively obscuring bedrock-hosted mineralisation in many prospective areas. There are broadly three principal transported sequences: Sequence A, transported cover pre-dating deep weathering (Permo-Carboniferous); Sequence B, transported cover deposited contemporaneously with weathering (Mid Eocene–Miocene); Sequence C, transported cover deposited during an arid period (Quaternary). These sequences can be further sub-divided according to the nature of the transported material. The nature and evolution of transported cover strongly influence the effectiveness of metal transfer. There have been several stages of Au mobilisation in transported cover sequences. In older transported cover (Sequences A and B), in addition to mechanical dispersion, groundwater-related solubilisation and subsequent deposition of Au and pathfinder elements have formed anomalies, especially in Fe oxides (palaeoredox fronts) within the weathered cover at or below the surface. These palaeoredox fronts occur as goethite–hematite-rich ferruginous nodules, pisoliths and mottles that were initially formed during the Palaeocene but more commonly during the Mid to Late Miocene under seasonal climatic conditions. The association of Au with pedogenic calcrete and siliceous hardpan in Quaternary transported cover (Sequence C) indicates that movement of Au is still active. Mechanical dispersion, with some chemical dispersion, mainly occurs in the basal part of the cover. In older transported cover, ferruginous nodules and pisoliths and/or an unconformity between the transported cover and the underlying rock are the preferred sample media. In recent transported cover, sampling of basal gravelly sediments or sampling along an unconformity is optimal. Where it occurs, the calcrete horizon is the preferred near-surface sample medium for Au exploration, except where residual ferruginous materials are present.

¹ CSIRO, Mineral Resources, 26 Dick Perry Avenue, Kensington WA 6151, Western Australia

EUROPEAN JOURNAL OF MINERALOGY

Special Issue in Honour of Christian Chopin

We are pleased to announce that issue 4 of volume 31 of the *European Journal of Mineralogy (EMJ)* is a special issue in honour of Christian Chopin (Directeur de recherche 1st Class au CNRS, Laboratoire de Géologie de l'École Normale Supérieure, Paris, France) who tirelessly served the *EMJ* for 30 years, only stepping down in 2018. This special issue contains a fair proportion of open access articles (see examples below). Read these papers and more at <https://pubs.geoscienceworld.org/eurjmin/issue/31/4>.



- “What’s in the Sandwich? New *P-T* Constraints for the (U)HP Nappe Stack of Southern Dora-Maira Massif (Western Alps)”. By C. Groppo, S. Ferrando, M. Gilio, S. Botta, F. Nosenzo, G. Balestro, A. Festa, F. Rolfo
- “Measurement of Strains in Zircon Inclusions by Raman Spectroscopy”. By C. Stangarone, R.J. Angel, M. Prencipe, N. Campomenosi, B. Mihailova, M. Alvaro
- “From Extension to Compression: High Geothermal Gradient during the Earliest Variscan Phase of the Moroccan Meseta; A First Structural and RSCM Thermometric Study”. By A. Lafid, L. Baidder, H. Ouanaïmi, A. Soulaïmani, C. Hoepffner, A. Farah, O. Saddiqi, A. Michard
- “Low Water Contents in Garnet of Orogenic Peridotite: Clues for an Abyssal or Mantle-Wedge Origin?”. By E. Schmädicke, J. Gose
- “Lithium Mineral Evolution and Ecology: Comparison with Boron and Beryllium”. By E.S. Grew, G. Hystad, M. Toapanta, A. Ostroverkhova, J. Golden, R. Hazen
- “Sr-bearing High-Pressure Tourmaline from the Kreuzeck Mountains, Eastern Alps, Austria”. By A. Ertl, D. Topa, G. Giester, G.R. Rossman, E. Tillmanns, J. Konzett

EMJ is Fully Open Access

In January 2020, the *European Journal of Mineralogy* became a “full open access” journal published by Copernicus Publications with a very attractive article processing charge strategy while maintaining its high editorial standards. A reduced article processing charge of €50 per printed page (or €40 for society members) is offered during a large part of 2020. Submit your papers at: <https://www.european-journal-of-mineralogy.net/>.