

OFIOLITI

SPECIAL SECTION 50TH ANNIVERSARY

FOREWORD

To celebrate the 50th anniversary of the journal *Ofioliti*, whose first issue was published in 1976, we must look back at least two years earlier, to 1974. Indeed, the early 1970s witnessed a remarkable shift within the research community, both in Italian universities and at the National Research Council (CNR). This change primarily affected the relationships among individual scholars, who until then had often been driven by career considerations toward single-authored monographic publications. It was during this period that collaborative working groups emerged, fostering an environment in which research and scientific results became a shared endeavour.

This shift was particularly profound for the field of ophiolite studies. In those years, ophiolites underwent a series of novel interpretations that fundamentally changed their significance in understanding the evolution of the Earth's crust, evolving from being regarded as simple intrusive and volcanic rocks emplaced in orogenic settings to being recognized as fragments of oceanic lithosphere obducted onto continental margins during mountain-building processes. Against this background, the Working Group on Mediterranean Ophiolites was established, bringing together researchers from Italy and abroad.

These developments prompted Pietro Passerini and Valerio Bortolotti to use a simple mimeograph machine to rapidly distribute short booklets – “*Il Giornalino delle Ofioliti*” – reporting on the initiatives and preliminary results produced by the various branches of the Working Group. However, the practical difficulties involved in assembling and distributing these mimeographed pages soon made it clear that a more effective solution was needed. Thanks to financial support from the CNR, this solution initiative took the form of a printed journal. Thus, *Ofioliti – Bollettino del Gruppo di Lavoro sulle Ofioliti Mediterranee* – was born. Initially published three times a year and distributed free of charge to members of the Working Group, it later adopted a semi-annual publication schedule while continuing to ensure the rapid dissemination of submitted papers.

One of the main aims of the journal was also to make the latest international research on ophiolites readily available to all members of the Working Group. To this end, *Ofioliti* included an “Abstracts” section, presenting selected summaries of papers published in other journals. This section proved highly successful and remained an important feature until the 1990s, when the increasing availability of scientific literature made it no longer necessary. By then, *Ofioliti* had established itself as a well-recognized international journal published entirely in English. This evolution was also reflected in a change in title: beginning with Volume 15 in 1990, it became *Ofioliti – An International Journal on Ophiolites and Related Topics*.

The following years were characterized by a steady process of growth and renewal. In 1996, Michele Marroni, Pietro Passerini and Benedetta Treves joined the Editorial Office, while *Ofioliti* adopted a new format and cover design that reflected its expanding international profile. Riccardo Tribuzio joined the Editorial Office in 1999, further strengthening the editorial team during a period of increasing scientific visibility.

These developments soon translated into broader international recognition. *Ofioliti* was indexed in the International Scientific Indexing (ISI) database in 1997 and received its first Impact Factor in 2000. Over the following two decades, the Impact Factor remained consistently between approximately 0.5 and 1.5, reaching its highest value of 2.56 in 2020. Although bibliometric indicators alone cannot fully measure the scientific value of a journal, this achievement testified to the quality of the contributions published in *Ofioliti* and to the dedication of its editors, reviewers and authors.

As the journal continued to evolve, its editorial structure was periodically renewed while preserving the scientific principles on which it had been founded. A major reorganization took place in 2011, when Luca Pandolfi assumed the role of Executive



Editor, working alongside Benoit Ildefonse, Valerio Bortolotti, Michele Marroni, Aral Okay and Riccardo Tribuzio as Editors. This process of renewal continued in the following years: Alessandra Montanini replaced Riccardo Tribuzio in 2014, while in 2019 Marco Chiari, M. Cemal Göncüoğlu and Tomoaki Morishita joined the Editorial Board, succeeding Benoit Ildefonse and Aral Okay.

A further important step in the evolution of *Ofioliti* took place in 2020, when Alessandra Montanini assumed the role of Executive Editor and the journal adopted a renewed editorial organization. In the same year, *Ofioliti* entered a new phase of its publishing history through the adoption of the Open Journal Systems (OJS) platform and the transition to a free-access publishing model under Edizioni ETS. Beyond the technological innovation, this change modernized the entire editorial workflow—from manuscript submission to peer review and publication—while making the journal's scientific content more readily accessible to the international Earth science community.

The current Editorial Board reflects the increasingly international dimension of the journal and includes Valerio Bortolotti as Honorary Editor; Giulio Borghini, Marco Chiari, Jakub Ciałęła, Yıldırım Dilek, Marc Hässig, Chuan-Zhou Liu, Konstantinos Mavrogonatos, Francesca Meneghini, Claudio Natali, Jose Alberto Padron-Navarta and Alessio Sanfilippo as Associate Editors. Together, they represent a broad range of expertise in ophiolite and oceanic lithosphere research, ensuring the continuity of the scientific standards that have characterized *Ofioliti* since its foundation.

Throughout these years, *Ofioliti* has remained committed to providing publishing opportunities for researchers from developing countries, offering an accessible and internationally recognized forum for the dissemination of their research. This commitment to scientific quality, international collaboration and inclusiveness has become one of the defining characteristics of the journal.

Looking back over these fifty years, it is evident that *Ofioliti* has developed from the publication of a small working group into an established international journal serving a broad scientific community. Yet, despite the many changes in its editorial organization, format and international visibility, the original spirit has remained unchanged. The journal continues to provide a forum where new ideas, observations and interpretations on ophiolites and related topics can be shared freely among researchers from all over the world. In this sense, *Ofioliti* still fulfils the mission that inspired its foundation in the mid-1970s: to promote scientific collaboration, encourage the exchange of knowledge, and contribute to a deeper understanding of the geological processes that shape our planet.

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Celebrating the 50th anniversary of *Ofioliti*, this Special Section of *Ofioliti* brings together a collection of nine review papers that reflect both the historical roots of ophiolite research and the diversity of current scientific perspectives. Brief summaries of the individual contributions are provided below.

Barbero et al. present a comprehensive synthesis of the stratigraphic, structural, petrological, geochemical and geochronological evolution of the North Makran ophiolites (SE Iran), reconstructing the complex history of the Neo-Tethyan oceanic lithosphere from its Jurassic-Cretaceous formation to its final incorporation into the Makran Accretionary Prism. The study effectively highlights the interplay of ridge, plume and subduction-related processes in generating oceanic lithosphere within a convergent plate margin.

Bussolesi and Grieco review the chromite deposits of the Hellenide ophiolites, integrating mineral chemistry, platinum-group element geochemistry and multivariate statistical analysis. The comparison of chromitites from the Pelagonian–Subpelagonian, Vardar and Serbo-Macedonian domains highlights how primary supra-subduction signatures and subsequent metamorphic overprinting together record the geodynamic evolution of the Neo-Tethys.

Cluzel et al. review the polyphase evolution of the New Caledonia Peridotite Nappe, a key natural laboratory for forearc ophiolite processes. They detail how the mantle wedge was shaped by successive melting events and pervasive metasomatism, driven by fluid, melt, and solid-phase transfer from the subducting slab. The study highlights the pronounced chemical heterogeneity of the forearc lithosphere during hot subduction initiation.

The paper by Dimasi et al. focuses on the characteristics and evolution of the geological system that hosted and/or hosts serpentinization and potential native hydrogen production. This topic is crucial for the 'energy transition' and is closely linked to the discovery of low-emission energy sources, one of which is hydrogen produced by serpentinization. The authors discuss the evolution of mantle rocks during rifting, with a focus on their initial placement in an OCT, prior to their involvement in convergent tectonics. They use the Grischun-Malenco ophiolites in the eastern Central Alps as an example. Through this paper, the authors aim to demonstrate the potential of ophiolitic mantle bodies as sources of low-carbon native hydrogen and illustrate the likely key role of easily accessible OCT-derived ophiolites in this emerging research field.

The review by Federico et al. provides a synthesis of structural, petrological, geochronological and geophysical studies on the metamorphic ophiolites of the central Ligurian Alps, reconstructing the evolution of Jurassic oceanic lithosphere from its formation to HP-UHP subduction and subsequent exhumation during Alpine orogenesis. The article highlights the tectono-metamorphic evolution of the fossil plate interface and emphasizes the role of the Ligurian meta-ophiolites as a natural laboratory for investigating subduction-interface dynamics and the geodynamic evolution of the Alps–Apennines junction.

Garber et al. investigate the protoliths of the Samail metamorphic sole through regional trace-element geochemistry, Nd–Hf isotopes and zircon U–Pb geochronology. Their study reveals spatial variations in sole protolith composition, identifies both E-MORB- and N-MORB-like sources, and provides new constraints on the nature of the lower plate and the tectonic evolution accompanying subduction initiation beneath the Samail ophiolite.

Liu et al. review the studies on Yarlung-Tsangpo ophiolites of southern Tibet, addressing the long-standing discrepancy between their geological and geochemical characteristics. The authors argue that these ophiolites formed at ultraslow-spreading ridges and propose that later subduction-related processes overprinted an originally MORB-like oceanic lithosphere. Their synthesis offers a new perspective on the origin of ophiolites and supports a broader shift from the classical Penrose model toward the Chapman model.

The review of Marroni et al. integrates sedimentological, structural and metamorphic data from ophiolite successions of the Western Alps, Northern Apennines and Alpine Corsica to provide a comprehensive picture of the evolution of the sedimentary cover of the Ligurian-Piedmont Ocean. The study documents the transition from post-spreading pelagic sedimentation to syn-convergence and trench-related deposits, highlighting the key role of the sedimentary cover in controlling subduction processes and recording the geodynamic evolution of ancient ocean basins.

Morishita and Takazawa examine the Horoman Peridotite Complex in Japan, an exceptional natural laboratory preserving lherzolites, harzburgites, and mafic layers. They present a multi-stage evolutionary model spanning from mid-ocean ridge melting at 1 Ga to tectonic burial, subsequent arc-related magmatism, and exhumation. The study emphasizes how these mantle lithologies uniquely preserve ancient isotopic signatures despite later slab-derived metasomatism.

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