

GEOLOGICAL SOCIETY SPECIAL PUBLICATION NO. 260

Tectonic Development of the Eastern Mediterranean Region

EDITED BY

A. H F. ROBERTSON
University of Edinburgh, UK

and

D. MOUNTRAKIS
Aristotle University, Thessaloniki, Greece

2006

Published by
The Geological Society
London

Contents

ROBERTSON, A. H. F. & MOUNTRAKIS, D. Tectonic development of the Eastern Mediterranean region: an introduction	1
SMITH, A. G. Tethyan ophiolite emplacement, Africa to Europe motions, and Atlantic spreading	11
HIMMERKUS, F., REISCHMANN, T. & KOSTOPOULOS, D. Late Proterozoic and Silurian basement units within the Serbo-Macedonian Massif, northern Greece: the significance of terrane accretion in the Hellenides	35
YANEV, S., GÖNCÜOĞLU, M. C., GEDIK, I., LAKOVA, I., BONCHEVA, I., SACHANSKI, V., OKUYUCU, C., ÖZGÜL, N., TIMUR, E., MALIAKOV, Y. & SAYDAM, G. Stratigraphy, correlations and palaeogeography of Palaeozoic terranes of Bulgaria and NW Turkey: a review of recent data	51
ROMANO, S. S., BRIX, M. R., DÖRR, W., FIALA, J., KRENN, E. & ZULAUF, G. The Carboniferous to Jurassic evolution of the pre-Alpine basement of Crete: constraints from U–Pb and U–(Th)–Pb dating of orthogneiss, fission-track dating of zircon, structural and petrological data	69
ROBERTSON, A. H. F. Sedimentary evidence from the south Mediterranean region (Sicily, Crete, Peloponnese, Evia) used to test alternative models for the regional tectonic setting of Tethys during Late Palaeozoic–Early Mesozoic time	91
KARAMATA, S. The geological development of the Balkan Peninsula related to the approach, collision and compression of Gondwanan and Eurasian units	155
KAZMIN, V. G. & TIKHONOVA, N. F. Evolution of Early Mesozoic back-arc basins in the Black Sea–Caucasus segment of a Tethyan active margin	179
GARDOSH, M. A. & DRUCKMAN, Y. Seismic stratigraphy, structure and tectonic evolution of the Levantine Basin, offshore Israel	201
DANELIAN, T., ROBERTSON, A. H. F., COLLINS, A. S. & POISSON, A. Biochronology of Jurassic and Early Cretaceous radiolarites from the Lycian Mélange (SW Turkey) and implications for the evolution of the Northern Neotethyan ocean	229
RASSIOS, A. H. E. & MOORES, E. M. Heterogeneous mantle complex, crustal processes, and obduction kinematics in a unified Pindos–Vourinos ophiolitic slab (northern Greece)	237
KOLLER, F., HOECK, V., MEISEL, T., IONESCU, C., ONUZI, K. & GHEGA, D. Cumulates and gabbros in southern Albanian ophiolites: their bearing on regional tectonic setting	267
GARFUNKEL, Z. Neotethyan ophiolites: formation and obduction within the life cycle of the host basins	301
RIZAOĞLU, T., PARLAK, O., HOECK, V. & İŞLER, F. Nature and significance of Late Cretaceous ophiolitic rocks and their relation to the Baskil granitic intrusions of the Elazığ region, SE Turkey	327
MORRIS, A., ANDERSON, M. W., INWOOD, J. & ROBERTSON, A. H. F. Palaeomagnetic insights into the evolution of Neotethyan oceanic crust in the eastern Mediterranean	351
SHARP, I. R. & ROBERTSON, A. H. F. Tectonic–sedimentary evolution of the western margin of the Mesozoic Vardar Ocean: evidence from the Pelagonian and Almopias zones, northern Greece	373
RICE, S., ROBERTSON, A. H. F. & USTAÖMER, T. Late Cretaceous–Early Cenozoic tectonic evolution of the Eurasian active margin in the Central and Eastern Pontides, northern Turkey	413
RIMMELÉ, G., OBERHÄNSLI, R., CANDAN, O., GOFFÉ, B. & JOLIVET, L. The wide distribution of HP–LT rocks in the Lycian Belt (Western Turkey): implications for accretionary wedge geometry	447
DEGNAN, P. J. & ROBERTSON, A. H. F. Synthesis of the tectonic–sedimentary evolution of the Mesozoic–Early Cenozoic Pindos ocean: evidence from the NW Peloponnese, Greece	467

PIPER, D. J. W. Sedimentology and tectonic setting of the Pindos Flysch of the Peloponnese, Greece	493
DOUTSOS, T., KOUKOUVELAS, I. K. & XYPOLIAS, P. A new orogenic model for the External Hellenides	507
VAMVAKA, A., KILIAS, A., MOUNTRAKIS, D. & PAPAIOIKONOMOU, J. Geometry and structural evolution of the Mesohellenic Trough (Greece): a new approach	521
MUCEKU, B., MASCLE, G. H. & TASHKO, A. First results of fission-track thermochronology in the Albanides	539
WESTAWAY, R. Late Cenozoic extension in SW Bulgaria: a synthesis	557
ALÇIÇEK, M. C., TEN VEEN, J. H. & ÖZKUL, M. Neotectonic development of the Çameli Basin, southwestern Anatolia, Turkey	591
BOULTON, S. J., ROBERTSON, A. H. F. & ÜNLÜGENÇ, U. C. Tectonic and sedimentary evolution of the Cenozoic Hatay Graben, Southern Turkey: a two-phase model for graben formation	613
PAVLIDES, S. B., CHATZIPETROS, A., TUTKUN, Z. S., ÖZAKSOY, V. & DOĞAN, B. Evidence for late Holocene activity along the seismogenic fault of the 1999 Izmit earthquake, NW Turkey	635
MOUNTRAKIS, D., TRANOS, M., PAPAACHOS, C., THOMAIDOU, E., KARAGIANNI, E. & VAMVAKARIS, D. Neotectonic and seismological data concerning major active faults, and the stress regimes of Northern Greece	649
TRANOS, M. D., KARAKOSTAS, V. G., PAPADIMITRIOU, E. E., KACHEV, V. N., RANGUELOV, B. K. & GOSPODINOV, D. K. Major active faults of SW Bulgaria: implications of their geometry, kinematics and the regional active stress regime	671
PAPAACHOS, B. C., KARAKAISIS, G. F., PAPAACHOS, C. B. & SCORDILIS, E. M. Perspectives for earthquake prediction in the Mediterranean and contribution of geological observations	689
Index	709