THE HAWLEY MEDAL FOR 2000 TO ENCARNACIÓN PUGA, MARÍA DOLORES RUIZ CRUZ AND ANTONIO DÍAZ DE FEDERICO

The Hawley Medal is awarded for the best paper to appear in *The Canadian Mineralogist* in 1999. The selection this year was especially difficult because there were a large number of excellent papers. The Hawley committee had a difficult time selecting among approximately eight papers. The committee, Ben Edwards, André Lalonde, and Mavis Stout all agreed on the eight or so papers, but had a difficult time selecting one. After several e-mail discussions, they agreed that the best paper this year was that of Encarnación Puga, María Dolores Ruiz Cruz, and Antonio Díaz de Federico, entitled "Magnetite–silicate inclusions in olivine of ophiolitic metagabbros from the Mulhacén Complex, Betic Cordillera, southeastern Spain (*The Canadian Mineralogist* **37**, 1191-1209).

Difficult personal and health reasons prevent all of the authors from making the journey from Spain to Canada to accept the medal. Our best wishes go to them for a change to happier circumstances.

The paper is based on extensive TEM imaging of minute inclusions of magnetite and amphibole in olivine crystals from the rocks of an ophiolitic sequence. From this lattice-scale information, the authors draw important conclusions about the metamorphism, tectonic evolution and fluid infiltration affecting these rocks. This extreme change in scale, from the atomic to the crustal scale, is quite impressive. The authors describe an outstanding study of exsolution processes in an interesting and complex geological setting. The study was well coordinated and applies the relevant new and established instrumental techniques. The authors present the geological problem, provide the data, and give a logical, thoughtful interpretation supported by the data. In addition to being very readable, the paper includes high-quality photographs that enhance the understanding of the reasoning and interpretation. Although quite technical, this paper can be read and understood even by the uninitiated because the authors have written with a flow and logic that allow the reader to follow their work from the introduction through their closing interpretations.

The Hawley Medal nominating committee

Dear Mr. President, members of the MAC, and guests,

My co-authors have requested me to express our gratitude for being awarded the Hawley Medal for 1999 for our article on magnetite and silicate inclusions in olivine of the Betic Ophiolitic Association. Most unfortunately, several adverse circumstances prevent us from accepting the MAC award in person. We thus ask the members of the MAC and guests to forgive our absence.

For several years, our scientific research has, in large part, been aimed at identifying and reporting the existence of an ophiolitic association tectonically sandwiched between the deepest metamorphic basement cropping out in the Betic Cordillera in southeastern Spain. The igneous protoliths comprising this association consist of Jurassic Tethyan ocean floor. These rocks have undergone a complicated series of metasomatic and metamorphic processes, firstly on the ocean floor, where they originated, and then in a subduction zone that occurred as a consequence of the Mesozoic–Cenozoic convergence of the Iberian and African plates.

The olivine forming part of the basic and ultrabasic rocks of this ophiolitic association is of an enigmatic and disconcerting brown color under the microscope. We are attempting to discover its origin by the application of the most sophisticated mineralogical techniques available to us. In this task, X-ray images of the distribution of various elements of grains previously selected as a result of exploratory electron-microprobe data, followed by TEM techniques applied to the olivine grains and their inclusions, have provided key clues in understanding this enigma. Nonetheless, as often occurs in science, this small advance in our knowledge of the origin and evolution of the "brown olivine" of the Betic ophiolites has raised a series of additional questions that undoubtedly constitute a challenge for the coming years.

Our most recent work on this subject is precisely the one published in the prestigious journal *The Canadian Mineralogist*, and generously recognized by the award of the Hawley Medal for 1999. We are very honored and happy to receive this great distinction, particularly as it is the first time in some 30 years of professional activity that we have been rewarded for our work. Nev-

ertheless, we should say that we have never actively sought any awards, as we belong to that widespread group of scientists who consider it a daily reward to be able to work in their chosen field. However, when one unexpectedly has the good fortune to receive some international recognition for a part of his work, as in this case, there is an enormous amount of satisfaction, especially considering the extremely high quality of the articles from which it has been selected. For this reason, we wish to state our gratitude and appreciation to the MAC for its initiative in establishing this award.

ENCARNACIÓN PUGA

The Editor of *The Canadian Mineralogist*, Dr. Robert F. Martin, spruced up the manuscript, transforming our Spanglish into English. This valuable help to authors unknown to him, as we are, and his considerable kindness, clearly go beyond his obligations as editor, and we would like to publicly express our gratitude to him on this occasion. Furthermore, we would like to thank the editorial staff for the excellent quality of the photo reproductions, which amply surpass that of other international scientific journals.

To sum up, many thanks to the Hawley Award Committee, to the MAC and to all those who have made it possible for our paper to be awarded this prestigious distinction.

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