

FIFTY YEARS OF SYMBIOTIC STARS

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Fifty years ago, Merrill and Humason wrote a note that was published the following year in the Publications of the Astronomical Society of the Pacific (Merrill and Humason, 1932), where they called attention to the existence of a group of stars—a very small group, then, with only AX Persei, RW Hydrae and CI Cygni, and "possibly" T Coronae Borealis and R Aquarii as members—characterized by the fact that their spectra display titanium oxide absorption bands together with emissions of He II 4686, [O III] 4363 and other nebular lines. The stars in the group were later called "symbiotic stars" by Merrill, on the occasion of a paper on BF Cygni that he presented before the American Astronomical Society in 1941 (cf. Merrill, 1958), and their spectra were described, also by Merrill, as "combination spectra".

IAU Colloquium No. 70 comes, therefore, at the right time to celebrate such a significant anniversary in the investigation of symbiotic stars. These have been dealt with in a number of colloquia and symposia, but always as a chapter of a more general subject, and this meeting is the first one ever devoted exclusively to discuss them. Consequently, it provides an unvaluable opportunity to assess our present knowledge in the field and its implications and to plan lines for future research. We already have available a large amount of information over a wide wavelength range and, in addition, the space astronomical observations have opened up new possibilities of understanding phenomena connected with the structure of extended envelopes in stars. So, an exchange of ideas and discussions on the problematics of symbiotic stars at this time should prove to be most useful and to have far-reaching effects in our understanding of the symbiotic stars.

Z Andromedae has been always considered to be the prototype of the group because it was the first member whose spectrum was studied in detail. Such a study was undertaken by H.H. Plaskett (1928) at the Dominion Astrophysical Observatory, Victoria, Canada, and published in 1928. Plaskett identified the high excitation lines and concluded that the spectrum originates in an extended atmosphere where the pressure is lower than that of the solar chromosphere. A few years later, Mer-