

Preface

The word *Allelopathy* was coined by Molisch in 1937 from the Greek words *allelo* (other) and *pathy* (suffering, feeling). The term has usually been applied to detrimental biochemical plant-plant interactions, but Molisch intended the term *allelopathy* to include both the detrimental and the beneficial influences of one plant upon another. In 1982, Chou and Waller used *allelochemicals* to mean that both interspecific and intraspecific interactions between organisms were mediated through a chemical process.

Since the 1960s allelopathy has gained increasing recognition as an important ecological factor influencing plant dominance, succession, formation of plant communities, climax vegetation, and crop productivity (Muller, 1966; Rice, 1984; Chou, 1989). Allelopathic phenomena, always interrelated with other environmental parameters, are difficult to isolate from the environmental complex (Muller, 1974; Chou and Waller, 1989).

I became interested in allelopathic research in 1966 when I was introduced to the field by the late academician Dr. Thomas S. C. Wang, who supervised my M. Sc. thesis on the isolation and identification of phytotoxins from sugar cane root. I was further inspired by Prof. C. H. Muller, an eminent plant ecologist at the University of California, Santa Barbara, to pursue a doctoral degree from 1968 to 1971. After finishing the doctoral program I moved to the University of Toronto and, with Professor Z. A. Patrick studied the tobacco-timothy grass-corn rotation problem. I returned to Taiwan in October 1972, when the country's economic situation was exceedingly poor.

Having little choice in the selection of research topics, and being limited to those which related to agricultural problems, I began to study the role of allelopathy in the agroecosystems of Taiwan. The major topics of this study were five-fold: (1) the autointoxication mechanism of some crop reductions in Taiwan, such as those of rice, sugarcane, mungbean, and pasture grasses; (2) the allelopathic interaction of subtropical grasses; (3) the allelopathic exclusion of understory vegetation by dominant forests; (4) the use of allelochemicals as naturally occur-

ring plant-growth regulators, such as herbicides; (5) the control of weeds by the allelopathic interactions in pasture-forest intercropping systems, thereby reducing herbicide use and labor costs. These studies resulted in the publication of over one hundred scientific papers. I also served as coordinator for two international symposia on allelopathy held in Taiwan, and as co-editor of the proceedings.

Since a heavy demand for reprints of my papers has exhausted the supply, I decided to publish a volume of selected papers to present to academic friends for the sake of intellectual exchange between scientists. I hope that the interaction will promote allelopathic research in many countries and benefit mankind.

Chang-Hung Chou
Research Fellow and Director