Resolution of Respect

Professor Syunro Utida (1913–2005)

On 2 November 2005, Syunro Utida, honorary member of the Ecological Society of America, died at the age of 92 after a long illness. He was an unusual ecologist who applied elegant laboratory experiments to elucidate ecological principles.

He was born 5 July 1913 in Gifu Prefecture, Japan, as the second son of a chemist, Tokiji Utida, in the delta area where the Kiso, Nagara, and Ibi Rivers join. Each village is surrounded by dikes to protect it from high tides, and also from flooding by the rivers. Prof. Utida chose entomology as his major, although he once mentioned that he had originally wanted to be an archaeologist.

He graduated from Kyoto Imperial University in 1936, and entered the Graduate School of Kyoto Imperial University. During his undergraduate period he was taught by Prof. Hachiro Yuasa. Prof. Yuasa, the founding professor of the Entomological Laboratory of Kyoto Imperial University, went to the USA when he was young, and was educated at Kansas State Agricultural College, and the University of Illinois, where he obtained his Ph.D in Entomology. He was famous as a liberalist, and his guidance reflected his idealism. Dr. Utida's colleagues include K. Imanishi, the founder of Japanese primatology, and M. Morisita, known for his I index in ecology, among others. During his graduate school period, Dr. Utida was guided by Professor Chukichi Harukawa, who had also studied at the University of Illinois under Professor V. E. Shelford.

Dr. Utida was strongly influenced by these two mentors. He was very independent, and he guided his students to be independent in their research. During his lifetime, he published 120 scientific papers, among which only 19 are coauthored. Following the example of Prof. Yuasa, he never coauthored the papers that his students wrote, although he constantly gave suggestions and guidance during the research and manuscript preparation phase. His teaching policy was to carefully avoid providing excessively close supervision. He strongly believed that the whole responsibility of any research lies in the hand of those who conducted the research. Despite all his accomplishments, Dr. Utida was an unassuming and gentle man. However, behind his amicable smile, he had a firm faith in the importance of rigorous experimental research. This belief later brought unfortunate incidents.

In 1939, he presented his work on the density effect and equilibrium at the Japanese Entomological Society. This was his debut presentation at a scientific meeting. It was well received and commended by colleagues. He was forced to treat them to tea and cake. But he later wrote in his memoir that the presentation was more valuable than the cost of the treat. The presentation was a part of his dissertation research, which was later published in a series of nine papers in the Memoirs of the College of Agronomy, Kyoto Imperial University, from 1941 to 1943. It was a comprehensive work on density effects on the dynamics of animal populations, illustrated by experimental work with the adzuki bean weevil (*Callosobruchus chinensis*). It is rather amazing, considering Japanese–United States relationships and poor communications at that time, that his work was extensively cited as early as 1949 in the now classic ecology textbook, *Principles of Animal Ecology*, by Allee et al. (1949).

In 1948 he became the professor of Entomology at Kyoto University, succeeding Professor Harukawa, a post he held for 30 years until his retirement in 1977.

Soon after the end of the Second World War, his interest extended to the dynamics of hosts and parasitoid wasps, using the bean weevils and their larval parasitic wasps as subjects. He published his experimental results in the journal *Ecology* in a series of papers from 1950 to 1957. In 1957 he was invited to the Cold Spring Harbor Symposium on Quantitative Biology. After that time, his work on host and parasitoid dynamics was known worldwide. His work was extensively cited in several ecology textbooks published in the early 1970s, (e.g., Krebs 1972, Colinvaux 1973, Ricklefs 1973). His work on host and parasitoid dynamics is now a classic in ecology, and even recent textbooks cite his work (e.g., Begon et al. 1996). Because of his exceptional contribution to ecological science, he was elected an honorary member of the British Ecological Society, and was also awarded honorary membership by the Ecological Society of America in 1992. In addition, he was made an honorary member of the Society of Population Ecology, Japanese Society of Ecology, and Japanese Society of Applied Entomology and Zoology.

His research on host–parasitoid dynamics ended abruptly after a successful presentation at the International Congress of Entomology in Vienna, Austria in 1961. At that time, he was planning to extend the scope of his experiments, first by increasing the number of bean weevil species to more than two, and then increasing the number of species of parasitic wasps. He already had the candidate organisms in hand. He had demonstrated experimentally that the two bean weevil species (*C. chinensis*, and the cowpea weevil, *C. maculatus*) could not coexist in a small Petri dish for long, but introduction of parasitic wasp species made it possible for the two bean weevil species to coexist. In his experiments, the interspecific competition always ended in the extinction of *C. chinensis*. However, when another researcher later repeated the same experiment with the same materials, he obtained the reverse result, namely, the extinction of *C. maculatus*. Dr. Utida also repeated the experiment, resulting in the extinction of *C. maculatus*. He could not comprehend the results, and his own confidence in his entire set of experiments was greatly shaken. He unfortunately abandoned all future experiments on that subject. If he had continued, the plan was obviously very far advanced for that period, and he would have performed pioneering work on the stability–complexity relationship in biotic communities. We had to wait until his students began experimental studies using similar materials along the lines he planned to understand the problem he encountered.

The strain of *C. maculatus* Dr. Utida used was established from a specimen accidentally imported with beans sent by the U.S. government as food aid just after the war. When he began rearing *C. maculatus*, many of the adults were of an odd active form, but over many generations, the adults increasingly were of the normal form. It seems very likely that some change in ecological character(s) in *C. maculatus* occurred during the laboratory breeding, especially in the early period just after their introduction to laboratory conditions. It also turned out that the interactions of these two bean weevil species were very delicate. When four geographical strains of each species were employed, the interspecific competition resulted in the extinction of *C. maculatus* in 10 combinations out of 16, and the rest of the combinations ended in the extinction of *C. chinensis* (Fujii 1969), similar to the experiment with *Tribolium castaneum* and *T. confusum* by Park et al. (1964).

His major interest shifted to the investigation of the mechanisms of dimorphism seen in *C. maculatus*, which became his pet research topic; he published many papers on this topic, and continued his research even after his retirement.

Although his published research was mostly confined to the dynamics of laboratory populations, he was a good naturalist, and enjoyed field study, too. In the 1950s and early 1960s, he often led a team consist-

ing of laboratory colleagues and students to conduct field surveys on the spatial distributions of the lady beetles *Henosepilachna vigintioctopunctata* and *H. vigintioctomaculata* and the larvae of the cabbage butterfly, *Pieris rapae*. Several multiauthored papers were published. These papers stimulated other researchers to become aware of the importance of spatial distribution of organisms in the field, and many studies on spatial distributions of various insects followed.

He was instrumental in launching the Society of Population Ecology, and kicking off the publication in 1952 of *Researches on Population Ecology* (now *Population Ecology*). It is probably the best-known ecological journal published in Japan promoting research on population ecology. In 1966 the Society of Population Ecology was launched, and Prof. Utida was elected as the first President of the Society.

His last 10 years at Kyoto University were rather sad and lonely. Around 1968, campus riots prevailed in many universities in Japan by students demanding university reforms. Soon, younger faculty members joined the students, and the antagonism between professors and younger faculty and students intensified. He strongly believed in order and the integrity of research in universities, and often refused easy compromise at the collective meetings. Around that period, he always carried his resignation letter with him. Even after the turmoil subsided, his human relationships never recovered fully. After his retirement in 1977, he left Kyoto and started a new life at Hayama, near Tokyo. He once lamented that he was interested in the effect of over-crowding in his research, but ironically experienced the loneliness of under-crowding.

When young scientists complained about the lack of research funds, Professor Utida often said that it was not because of the lack of money that they could not conduct good research; rather, it was because of the lack of good research that they did not get research funds. This only serves to illustrate how confident and proud he was of his scientific work. However, when he heard of plans by the state to honor him, he declined the honor, as he believed absolutely in a meritocracy.

His wife, Shizuko Suga, whom he married in 1942, a devout Christian, attended her husband devotedly during his long illness. Four years before his death, he converted to Christianity. He is survived by his adored wife Shizuko, three children, six grandchildren, and three great-grandchildren.

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