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## Professor Mahmoud Shojaei (1925–2018), Memorial letter

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**ABSTRACT.** Prof. Mahmoud Shojaei, a prestigious professor of entomology at Tehran University and Islamic Azad University, passed away at 93 on November 25, 2018. Prof. Shojaei's contribution to entomology was profound and enduring, 63 years of teaching and research. He was former Dean of Faculty of Agriculture, University of Tehran and manager of Jalal Afshar's Zoological Museum, at Karaj campus of the University of Tehran.

**Key words:** Biological control, *Trichogramma*, Tehran University

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Dr. Mahmoud Shojaei, born on March 25, 1925, in Mahabad, West Azerbaijan province, Northwest Iran. His primary and secondary schools were in Tabriz and Khoy, and he completed the school in Tabriz in 1947. He earned a B.S degree in Agricultural Engineering and an M.Sc. in Agricultural Entomology, both from the Faculty of Agriculture, University of Tehran. As a first-rank student of the Karaj faculty, he awarded a governmental Ph.D. scholarship and started at the Gembloux Agro-Bio Tech University in Belgium, which finished with honor and has returned to Iran in 1933 with a Ph.D. in entomology. His first career was Assist. Prof. in Karaj faculty of Agriculture, University of Tehran. His promotion to Assoc. Prof. was in 1956 and Professor in 1964. During 25 years, he served as various responsibilities, including dean of Plant Protection Department, dean of Faculty of Agriculture, and the Zoological Museum's longtime manager.

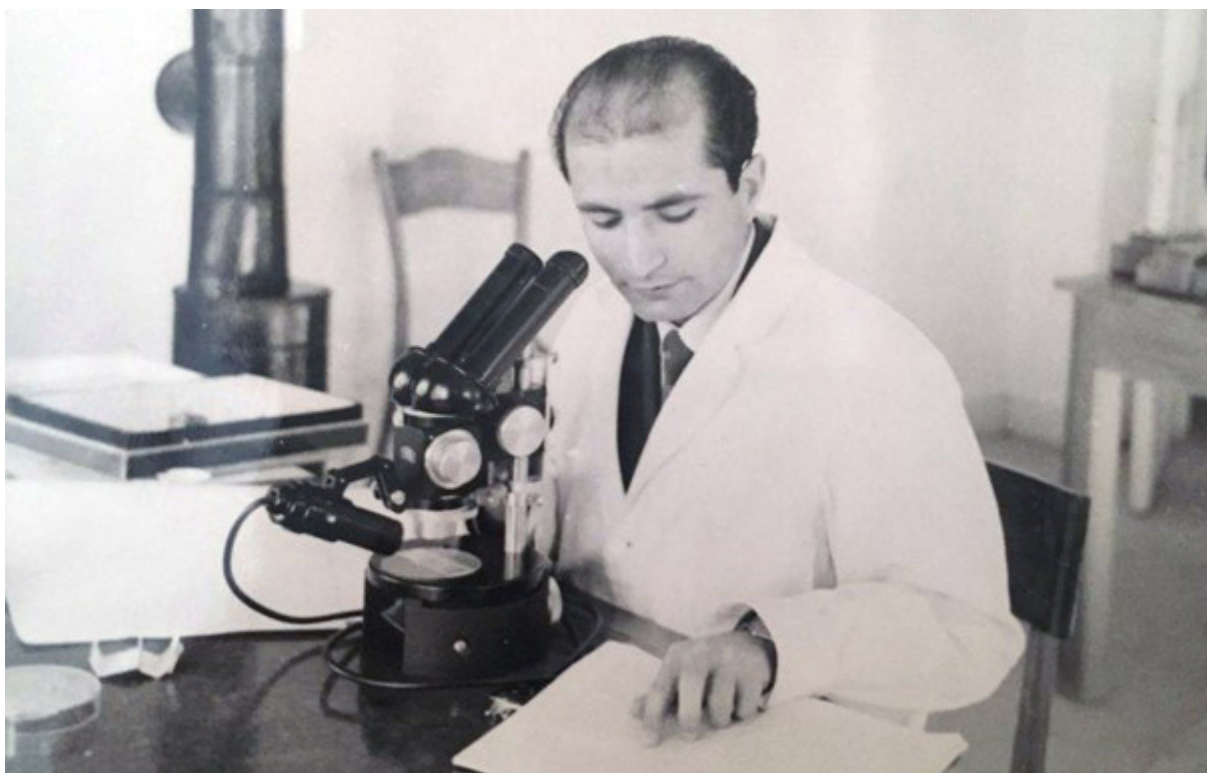
After retirement from the University of Tehran, he joined the Iranian Research Organization for Science and Technology (IROST). He served for mass rearing of parasitic wasp, *Trichogramma*, as an inundative biocontrol agent. He was the leader of a project that aimed to successfully inundative release the *Trichogramma* spp. at Mashhad, Astaneh gardens. For this achievement, he was awarded the honorary and prize of the 1<sup>st</sup> and 11<sup>th</sup>. Khwarizmi International Award at 1987 and 1997. He organized to implement more than 15 research projects while cooperating with the Ministry of Agriculture and Plant Protection Organization, mainly on entomophagous parasitic wasp of *Trichogramma* sp. During these years, he made a significant contribution to improving the facilities of mass rearing and *Trichogramma* release in apple orchards.

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**Figure 1.** Professor M. Shojaei in class at Faculty of Agriculture, Karaj (the 1960s) (Courtesy of Arman Avand-Faghih).



**Figure 2.** Professor M. Shojaei in the laboratory of entomology at Karaj Faculty of Agriculture. (Courtesy of Yahya Ostadi, Islamic Azad University).

In 1993, he joined as a professor at the Islamic Azad University (IAU), science and research branch, where he remained for the rest of his academic career. He made a great contribution to establish the Faculty of Agriculture, IAU, and improving the MSc and Ph.D. programs.

Dr. M. Shojaei published dozens of Persian entomology textbooks (Fig. 7), focused on general entomology, biology, and ecology throughout his career, which are the most popular scientific references for entomology students in Iran. Five volumes of the entomology book series are among the main textbooks for students. Those five series including Vol. 1 as Morphology and Physiology; Vol. 2 for Ontogeny, Biology, Biotechnology, Entomophages; Vol. 3 for Ethnology, Social Life and Natural Enemies - Biological Control; Vol. 4 for Classification and Evolutionary Perspective, Habitat Adaptability; and the last volume, Vol. 5, Classification and Evolutionary Perspective, Outlook of Regional and Biodiversity of Important Families in Iran. The University of Tehran Press published those books, with more than 4000 pages. Those books are invaluable aids for undergraduate and postgraduate students of plant protection. Before these, the University of Tehran Press published three more books: Insect diapause, 1962; Wood-boring beetle, 1963; and Entomophagous wasps, 1969.

### **Some of the main responsibilities**

Manager the Jalal Afshar's Zoological Museum, College of Agriculture, University of Tehran, Karaj, 1955–1980.

Member of the International Organisation for Biological Control (IOBC) and member of the executive board of IOBC, 1985 to 1988.

Member of the International Poplar Commission and representative of the Poplar Inspectorate Committee, 1947–1999.

Professional member of the Belgian and Iranian Entomological Society.

Member of Board directors and scientific council of the Darabad Museum of Natural History, Wildlife and Nature Museum, 1991.

Editor of the Agricultural Science Journal of IAU, Science and Research Branch.

Director of Department of Postgraduate Degree and Ph.D. in Entomology at IAU, Science and Research branch.

Supervisor of the advisory committee of 300 these of MSc and Ph.D. dissertations.

Diploma (Gold medal) as the first rank student, Faculty of Agriculture, University of Tehran, 1950.

Award for book of the year, 1967.

Award for the top honorary professor, Faculty of Agriculture, IAU, Science and Research branch, 2007.

### **Main Books**

Shojaei, M. 2005. Entomology: Morphology and Physiology. Vol. I. Sixth Edition. Tehran University Press, 396 pp.

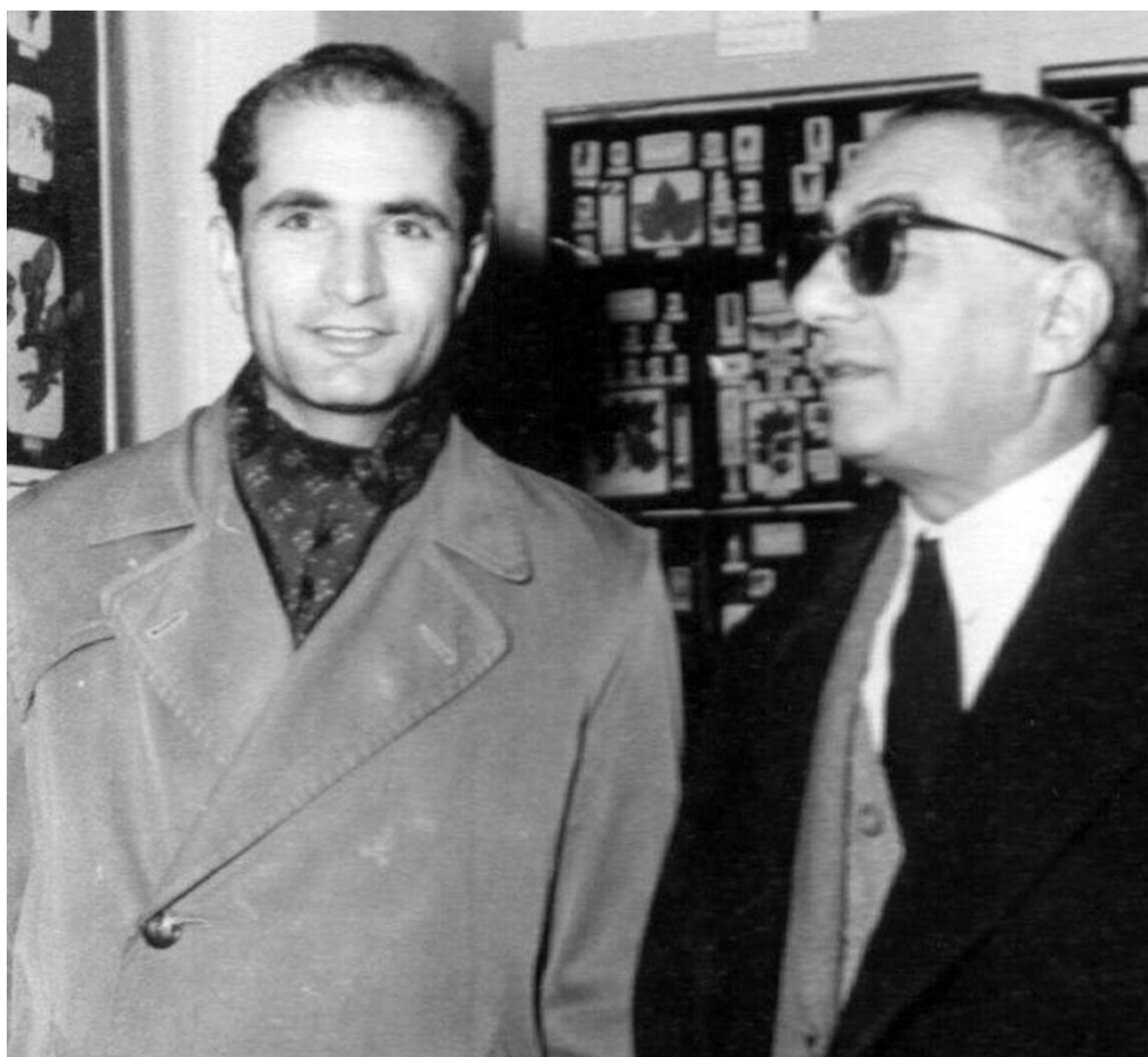
Shojaei, M. 1996. Entomology: Ontogeny, Biology, Biotechnology, Entomophages. Vol. II. Second Edition. Tehran University Press, 464 pp.

Shojaei, M. 1998. Entomology: Etiology, Social life and Natural Enemies - Biological Control. Vol. III. Third Edition. Tehran University Press, 550 pp.

Shojaei, M. 2012. Entomology: Classification and Evolutionary perspective, Habitat Adaptability). Vol. IV. Tehran University Press, 553 pp.

Shojaei, M. 2014. Entomology: Classification and Evolutionary Perspective, Outlook of Regional and Biodiversity of Important Families in Iran. Vol. V. Tehran University Press, 882 pp.

Dr. M. Shojaei was an excellent speaker, a brilliant, enthusiastic, and committed teacher, an outstanding entomologist and an intellectually rigorous scientist, characterized by the highest standards of both personal and professional integrity. The name Mahmoud Shojaei has, over the past four decades, become synonymous with general entomology. Shojaei's contribution to entomology and plant protection has been immeasurable. Prof. M. Shojaei passed away on November 25, 2018, surrounded by his family in Tehran. A lot will fondly remember him of his students, colleagues, and friends of the University.



**Figure 3.** Professor M. Shojaei (left) with Professor Jalal Afshar – The founder of Applied Entomology in Iran (Right) (Courtesy of Yahya Ostadi, Islamic Azad University).



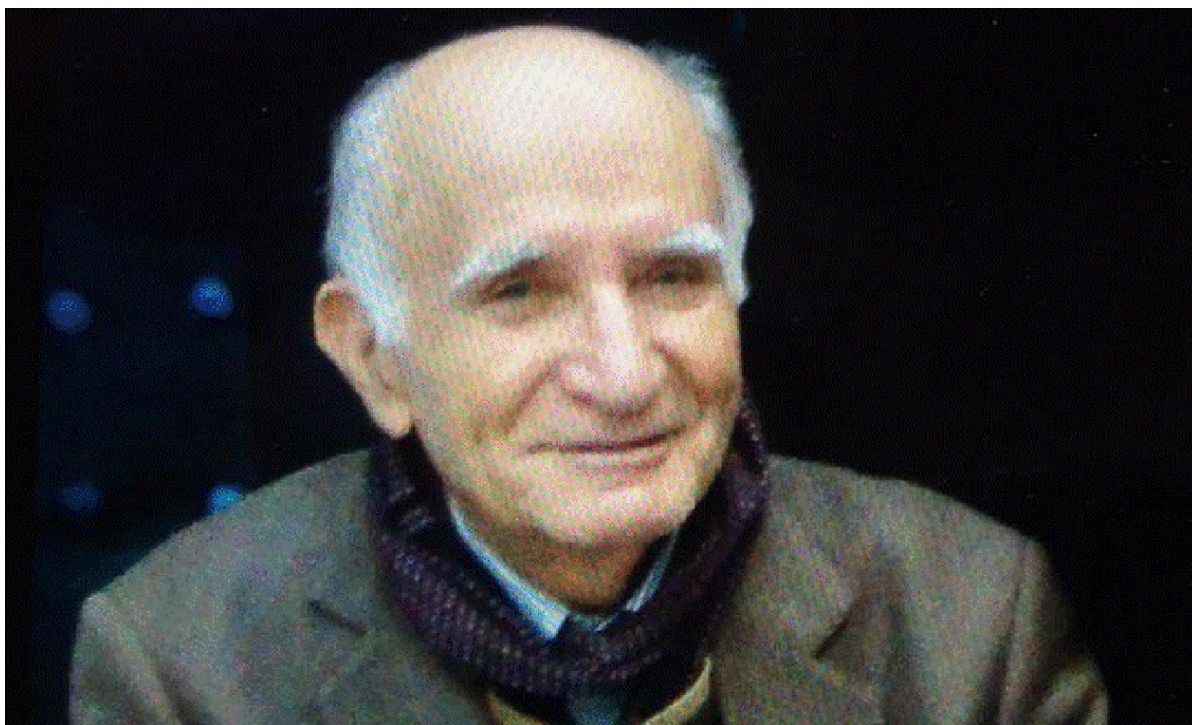


**Figure 4.** Professor M. Shojaei (left) with one of the famous entomologists (right) (Courtesy of Yahya Ostadi, Islamic Azad University).





**Figure 5.** Former Iranian president Hashemi Rafsanjani visits a project of mass rearing of *Trichogramma* in the Iranian Research Organization for Science and Technology, which was managed by Professor M. Shojaei as a pioneer on egg parasitoids (Courtesy of Yahya Ostadi, Islamic Azad University).



**Figure 6.** Professor M. Shojaei in last year while working at Islamic Azad University (Courtesy of Yahya Ostadi, Islamic Azad University).



**Figure 7.** The cover of published books by Prof. M. Shojaei, which had a critical role in promoting the science of entomology in Iran (Courtesy of the University of Tehran).

### Acknowledgments

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### Conflict of Interests

The author declares that there is no conflict of interest regarding the publication of this paper.

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- University of Tehran Press. (2021) *List of published books*. Available from: <https://press.ut.ac.ir/> [Accessed 20th January 2021].

## استاد محمود شجاعی (۱۳۰۴-۱۳۹۷)، نامه یادبود

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**چکیده:** استاد محمود شجاعی، استاد معتبر حشره‌شناسی دانشگاه تهران و دانشگاه آزاد اسلامی در سن ۹۳ سالگی و در تاریخ ۰۴ آذر ۱۳۹۷ درگذشت. سهم استاد شجاعی در حشره‌شناسی، ۶۳ سال تدریس و تحقیق عمیق و ماندگار بود. ایشان رئیس سابق دانشکده کشاورزی دانشگاه تهران و مدیر موزه جانورشناسی جلال افشار در پردیس کرج دانشگاه تهران بود.

**واژگان کلیدی:** کنترل بیولوژیک، تریکوگراما، دانشگاه تهران