1. Record Nr. UNINA9910495232903321 Autore Yukawa Junichi Titolo Biology of Gall Midges: Evolution, Ecology, and Biological Interactions / / edited by Junichi Yukawa, Makoto Tokuda Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2021 Pubbl/distr/stampa **ISBN** 981-336-534-X Edizione [1st ed. 2021.] Descrizione fisica 1 online resource (296 pages) Collana Entomology Monographs, , 2522-5278 Altri autori (Persone) TokudaMakoto Disciplina 595.772 Soggetti Invertebrates Evolution (Biology) **Ecology** Invertebrate Zoology **Evolutionary Biology** Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Taxonomy and phylogeny -- Speciation -- Adaptive radiation --Nota di contenuto Diversity and distribution -- Island biogeography -- Life history traits -- Behavior -- Population -- Insect community -- Association with host plants -- Natural enemies with special reference to parasitic wasps -- Invasive species -- Beneficial species. Sommario/riassunto This book provides practical ecological, ethological, evolutionary, and biogeographic data for gall-inducing cecidomyiids, their galls and host plants, based on field surveys, laboratory experiments and genetic analysis. It refers to various researches on gall-inducing insects published by a world of biologists. Practical methods of field surveys and data analysis are presented, as well as topics on parasitoids, invasive pests, and beneficial gall midges that would be useful for applied entomologists. Readers can learn an ecological way of thinking through diverse interrelations between insects and plants, and the analysis of ecological data from gall-inducing cecidomyiids. Galls can be easily observed in the field continuously from early to final stage of the development of galls and gall inducers because of their outstanding

> features and immobility. It provides important data of the host plant such as phenology, abundance as food resources, and the survival of

galled organs. By taking these advantages, many biologists have used galls and gall-inducing insects as highly convenient organisms for a wide range of studies including ecology, ethology, evolution, and biogeography. The book primarily intends to present the appeal of galls and gall-inducing insects for various biological studies. In particular, gall-inducing cecidomyiids are ideal insects to study ecology and evolution. It helps to open the doors to further cryptic study subjects. Also, integrating various ecological, ethological, evolutionary and biogeographic data as shown in this book can serve to further advance the macroevolutionary studies of insects.