

Aphid

Edith Marion Patch

Aphids A. K. Minks, Paul Harrewijn, P. Harrewijn, 1987

Biology and Ecology of Aphids Andreas Vilcinskis, 2016-02-22 Most people know of aphids as garden pests, infesting the soft green tissues of plants in vast numbers and killing them by sucking out the sap. Indeed, among the 4000 or so known species of aphids about 250 are pests, and in temperate regions several are economically important agricultural pests that damage crops directly during feeding or act as vectors for plant pathogens. But aphids are also important model organisms in evolutionary biology and ecology because they combine a number of unique features such as complex life cycles involving the development of morphologically distinct phenotypes (polyphenism), sexual and asexual reproduction strategies and changes of host plants. Aphids can also be regarded as holobionts because they are colonized by obligate and facultative microbes which enable them to feed exclusively on phloem sap and influence their resistance against pathogens, parasitoids or environmental stress. This book combines fundamental information about aphids with chapters addressing state-of-the-art research in topics such as aphid-related phylogeny, genome biology, epigenetics and chemical ecology.

Aphid Ecology An optimization approach A.F.G. Dixon, 2012-12-06 This second edition covers the evolution of aphids and their development in relation to specific plants, thoroughly revised and expanded since the first highly successful edition. Increasing knowledge of aphids has revealed that they are ideal organisms to use when studying many topical ecological issues.

Control of Aphids United States. Congress. House. Committee on Agriculture. Special Subcommittee on Aphid Infestation, 1956

Aphids as Crop Pests, 2nd Edition Helmut F van Emden, Richard Harrington, 2017-08-23 Aphids are among the major global pest groups, causing serious economic damage to many food and commodity crops in most parts of the world. This revision and update of the well-received first edition published ten years ago reflects the expansion of research in genomics, endosymbionts and semiochemicals, as well as the shift from control of aphids with insecticides to a more integrated approach imposed by increasing resistance in the aphids and government restrictions on pesticides. The book remains a comprehensive and up-to-date reference work on the biology of aphids, the various methods of controlling them and the progress of integrated pest management as illustrated by ten case histories.

Biology of Aphids Anthony Frederick George Dixon, 1973

Aphids in a New Millennium Jean-Christophe Simon, 2004

The Corn Root Aphid and Methods of Controlling it John June Davis, 1949

Aphid Biodiversity under Environmental Change Pavel Kindlmann, A.F.G. Dixon, J.P.

Michaud, 2010-07-01 This book presents the results of recent research on aphid population dynamics and ecology relevant to current environmental changes resulting from global warming. It incorporates a selection of the contributions presented at the International Symposium on Aphids in Fremantle, Australia, in October 2005, plus some additional invited chapters. The objective was to incorporate the major issues in the field and simultaneously create a closely interrelated and integrated volume. The first chapter sets the scene. Kindlmann and Dixon present a critical review of existing models of aphid population dynamics, examine the biological assumptions that are incorporated in the models and present one of the latest models of aphid metapopulation dynamics. They conclude that natural enemies are unlikely to affect aphid population dynamics late in a season, but in some years may have an effect very early in the season, when aphid colonies are still small and predators might be able to reduce the numbers of colonies. The question, whether aphids will move to different locations, adapt to the change in conditions in their current habitat

or go extinct is discussed by Ameixa. She concludes that the distributions of aphids are most likely to change, with the distribution of each species moving globally as their preferred habitat moves in response to changes in the climate, which may be more difficult than in the past because of habitat fragmentation and habitat loss.

Aphid Pests of Maine ; Food Plants of the Aphids ; Psyllid Notes Edith Marion Patch,1912

Aphid Ecology Anthony Frederick George Dixon,1985 Host selection; Size in aphids; Polymorphism; Cyclical parthenogenesis; Life-history patterns; Dispersal; Population dynamics; Community structure and species diversity; Epilogue.

The Buckthorn Aphid Edith Marion Patch,1924

Aphids as Virus Vectors Kerry F. Harris,Karl Maramorosch,2014-05-10 Aphids as Virus Vectors focuses on aphids as vectors of plant viruses and the fundamentals of their relationship with virus and host. The mouthparts and feeding mechanism of aphids are discussed, along with aphid penetration of plant tissues and the transmission mechanisms of aphids as virus vectors. The intrinsic properties and taxonomy of aphid-borne viruses are also examined. Comprised of 22 chapters, this book begins with an overview of the importance of aphids as vectors, their biology, and the properties of the viruses they transmit. These introductory chapters prepare the reader for later ones on aphid-virus-plant interactions. The next section deals with transmission mechanisms, with emphasis on several novel alternatives to many of the traditionally held concepts of how aphids transmit viruses. Accessory factors in non-persistent virus transmission are considered. Subsequent chapters focus on technological advances in aphid-virus research, including the use of aphid cell culturing, radioisotope methodology, membrane feeding, and electrical measurement systems. The most promising frontiers in epidemiological and control-oriented research are discussed in the last two sections. This monograph will be a useful resource for researchers from such varied sciences as entomology, plant science, and virology, as well as for graduate students taking entomology and plant pathology courses on insects in relation to plant diseases.

Aphids on Leafy Vegetables ,1981

Insect Herbivore-Host Dynamics A. F. G. Dixon,2005-02-03 Literature on the population dynamics of insect herbivores tends to favour a top-down regulation of abundance, owing much to the action of natural enemies. Originally published in 2005, this volume challenges this paradigm and argues that tree-dwelling species of aphids, through competition for resources, regulate their own abundance. The biology of tree-dwelling aphids is examined, particularly their adaptation to the seasonal development of their host plants. When host-plant quality is favourable, aphids, by telescoping generations, can achieve prodigious rates of increase which their natural enemies are unable to match. Using analyses of long-term population censuses and results of experiments, this book introduces students and research workers to insect herbivore-host dynamics using the interaction between aphids and trees as a model.

Aphids on the World's Herbaceous Plants and Shrubs, 2 Volume Set R. L. Blackman,Victor F.

Eastop,2008-04-15 Aphids are well-known as pests of agriculture, horticulture and forestry, but they are also one of the most biologically interesting groups of plant-feeding insects, and thus have attracted the attention of biologists in many research fields such as ecology, biodiversity, physiology, behaviour and genetics. Following the successful format of previous books on the world's aphids by the same authors, these two volumes provide a comprehensive species-by-species account of the aphids on the world's herbaceous plants and shrubs. They can be used not only as an identification guide and information source for entomologists and taxonomists throughout the world, but also as a unique database for studies of biodiversity and insect-plant relationships. In all, 3120 aphid species in 340 genera are covered, feeding on

2150 genera of host plants. Volume 1 features comprehensive host lists and keys to the aphids colonizing each plant genus. This information is supplemented in Volume 2 by a systematic account of all the aphid species, which provides information on their appearance in life, host range, geographical distribution and life cycles. There are 357 original line drawings, 252 photographs of slide-mounted specimens and 1000 references. *Aphids on the World's Herbaceous Plants and Shrubs* is the culmination of many years of work by two leading specialists and provides an essential research tool and standard reference work for entomologists in universities and research institutes throughout the world.

The Peach Potato Aphid (Myzus persicae) Jamin Ali, 2023-11-22 Considered as economically significant pests with worldwide distribution, aphids feed on hundreds of cultivated and ornamental plants and cause considerable economic loss on a global scale. The peach-potato aphid, *Myzus persicae*, is one of the most severe model aphid pests and successfully colonizes hundreds of plant species from 40 different families. It is a complex aphid pest known for its high reproductive rate, biotype formation, suppression of plant defenses, and wide range of host plants. This book covers ecological aspects - including life cycle, damage, and host range - which make aphids an economically important pest. A wide range of topics are covered, including ecological aspects of *M. persicae*; challenges with management approaches; damage; suppression of plant defenses; evolution; the mechanism of resistance against major classes of insecticides; the potential of biological control and natural plant-derived compounds (plant defense elicitors) as an alternative to the use of synthetic chemical insecticides to control *M. persicae*; and integrated pest management for *M. persicae*. As the peach-potato aphid is a model aphid pest, studying it helps to develop control strategies against the entire group of aphids. Written for professionals, as well as students, teachers, and researchers in the fields of entomology, ecology, and bioscience, this book is an enriching new addition to its field.

Aphids, 1987 Describes, in text and photographs, the physical characteristics, life cycle, and habitat of aphids.

The Physiological Basis of Wing Production in the Grain Aphid Lloyd Ackerman, 1926

Aphids on the World's Crops R. L. Blackman, V. F. Eastop, 2000-04-07 Fully revised and updated, this new edition of 'Aphids on the World's Crops' is the only publication to provide non-specialist workers wherever they are in the world, with an identification guide and an information source on one of the main groups of agriculturally important insects. It incorporates: * The latest information on the biology and distribution of both major and minor aphid pest species covering 455 species in 130 genera. * 40 additional crops, bringing the total to almost 300 * More aphid species in the keys * Approximately 500 new references It features those aspects of the biology of aphids most relevant to their taxonomy and identification, followed by a crop-oriented illustrated identification guide. It also includes a comprehensive, systematic account of the genera and species of aphids inhabiting crop plants. Comprehensively written by leading authorities in the world, it includes user-friendly identification keys with many illustrations, a summary of the techniques available for studying aphids, a list of further information sources and a photographic guide to the 150 most economically important species. It will be a reliable and invaluable reference tool for economic, applied and agricultural entomologists at universities, research institutes and advisory centres throughout the world.

The Top Books of the Year Aphid The year 2023 has witnessed a remarkable surge in literary brilliance, with numerous compelling novels captivating the hearts of readers worldwide. Let's delve into the realm of top-selling books, exploring the engaging narratives that have enthralled audiences this year. **The Must-Read : Colleen Hoover's "It Ends with Us"** This poignant tale of love, loss, and resilience has captivated

readers with its raw and emotional exploration of domestic abuse. Hoover expertly weaves a story of hope and healing, reminding us that even in the darkest of times, the human spirit can prevail. Uncover the Best : Taylor Jenkins Reids "The Seven Husbands of Evelyn Hugo" This spellbinding historical fiction novel unravels the life of Evelyn Hugo, a Hollywood icon who defies expectations and societal norms to pursue her dreams. Reids compelling storytelling and compelling characters transport readers to a bygone era, immersing them in a world of glamour, ambition, and self-discovery. Discover the Magic : Delia Owens "Where the Crawdads Sing" This mesmerizing coming-of-age story follows Kya Clark, a young woman who grows up alone in the marshes of North Carolina. Owens weaves a tale of resilience, survival, and the transformative power of nature, captivating readers with its evocative prose and mesmerizing setting. These top-selling novels represent just a fraction of the literary treasures that have emerged in 2023. Whether you seek tales of romance, adventure, or personal growth, the world of literature offers an abundance of captivating stories waiting to be discovered. The novel begins with Richard Papen, a bright but troubled young man, arriving at Hampden College. Richard is immediately drawn to the group of students who call themselves the Classics Club. The club is led by Henry Winter, a brilliant and charismatic young man. Henry is obsessed with Greek mythology and philosophy, and he quickly draws Richard into his world. The other members of the Classics Club are equally as fascinating. Bunny Corcoran is a wealthy and spoiled young man who is always looking for a good time. Charles Tavis is a quiet and reserved young man who is deeply in love with Henry. Camilla Macaulay is a beautiful and intelligent young woman who is drawn to the power and danger of the Classics Club. The students are all deeply in love with Morrow, and they are willing to do anything to please him. Morrow is a complex and mysterious figure, and he seems to be manipulating the students for his own purposes. As the students become more involved with Morrow, they begin to commit increasingly dangerous acts. The Secret History is a exceptional and thrilling novel that will keep you speculating until the very end. The novel is a cautionary tale about the dangers of obsession and the power of evil.

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