

A volume in the Books in Soils, Plants, and the Environment series

Edited by

Francisco I. Pugnaire

Dept of Functional Ecology and Evolution, Arid Zones Research Station, Almería, Spain

Fernando Valladares

Center of Environmental Sciences, Madrid, Spain

Read the reviews of the First Edition:

"...a well-structured handbook covering most trends in the field with interesting details. It is highly recommended not only to ecologists but to all biologists"

— Photosynthetica

"...an admirable job of outlining a research landscape which will likely grow in importance in the post-genomics era as plant biologists return to the long-standing question of understanding plant function diversity, or, in other words, understanding why there are so many ways of being an evolutionary successful plant."

- Phytochemistry

CRC Press

Taylor & Francis Group

"...a highly scientific work...responds to a wide range of needs"

- Advances in Horticultural Science

"...is of great interest to researchers involved in sustainable forestry...definitely on the highly recommended list." — Journal of Sustainable Forestry

See reverse side for Contents and ordering information

Catalog no. 7488, June 2007, 742 pp. ISBN: 978-0-8493-7488-3, \$159.95 / £92.00

FEATURES

- Provides a full understanding of how plants have successfully evolved in multiple ecosystems
- Focuses on new approaches to questions about photosynthesis, functional ecology and phylogeny
- Covers plant responses to pollution and plant performance at different scales
- Draws on all areas of plant ecology to provide the broadest view of functional approaches to plant ecology
- Presents easy-to-read, up-to-date introductions to each topic.

Provides the keys to understand ecosystem structure and function

Following in the footsteps of the successful first edition, **Functional Plant Ecology, Second Edition** remains the most authoritative resource in this multidisciplinary field. Extensively revised and updated, this book investigates plant structure and behavior across the ecological spectrum. It features the ecology and evolution of plant crowns and addresses approaches to generalization in functional plant ecology, including the species-sampling problem, plant ecology strategy schemes, and phylogeny.

The book follows a bottom-up approach, from the more specific, detailed studies focusing on plant organs to the broadest ecosystem approaches. It offers the latest findings and research breakthroughs in plant ecology, as well as consideration of classic topics in environmental science and ecology. A wide-ranging compendium, the book investigates plant structure and behavior across the ecological spectrum, from the leaf to the ecosystem levels.

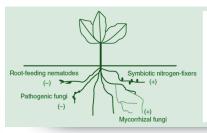


FIGURE 19.1

Rhizosphere organisms that have the greatest impact on plant performance. Positive interactions are indicated by (+); negative interactions are indicated with (–).

Functional Plant Ecology, Second Edition

CONTENTS

- Methods in Comparative Functional Ecology, C.M. Duarte
- **Opportunistic Growth and Desiccation** Tolerance: The Ecological Success of Poikilohydrous Autotrophs, L. Kappen and F. Valladares

Ecological Significance of Inherent Variation in Relative Growth Rate and its Components, H. Poorter and E. Garnier

The Architecture of Plant Crowns: From Design Rules to Light Capture and Performance, F. Valladares and Ü. Niinemets

Structure and Function of Root Systems, R.B. Jackson, W.T. Pockman, W.A. Hoffmann, T.M. Bleby, and C. Armas

Water Relations and Hydraulic Architecture, M.T. Tyree

Responses of Plants to Heterogeneous Light Environments, R.W. Pearcy

Acquisition, Use, and Loss of Nutrients, F. Berendse, H. de Kroon. and W.G. Braakhekke

Functional Attributes in Mediterranean-Type Ecosystems, R. Joffre, S. Rambal, and C. Damesin

Tropical Forests: Diversity and Function of Dominant Life-Forms, E. Medina

Plant Diversity in Tropical Forests, S.J. Wright

Arctic Ecology, S.E. Hobbie

- Plant Life in Antarctica, T.G.A. Green, B. Schroeter, and L.G. Sancho
- Facilitation in Plant Communities, R.M. Callaway and F.I. Pugnaire
- Plant Interactions: Competition, H.L. Reynolds and T.K. Rajaniemi
- Plant-Herbivore Interaction: Beyond a Binary Vision, E. Baraza, R. Zamora, J.A. Hódar. and J.M. Gómez
- Ecology of Plant Reproduction: Mating Systems and Pollination, A. Traveset and A. Jakobsson

Seed and Seedling Ecology, K. Kitajima

- Biodiversity and Interactions in the Rhizosphere: Effects on Ecosystem Functioning, S. Rodríguez-Echeverría, S.R. Costa, and H. Freitas
- Resistance to Air Pollutants: From Cell to Community, J. Barnes, A. Davison, L. Balaguer, and E. Manrique-Reol
- Canopy Photosynthesis Modeling, W. Beyschlag and R.J. Ryel
- **Ecological Applications of Remote** Sensing at Multiple Scales, J.A. Gamon, H.-L. Qiu, and A. Sanchez-Azofeifa
- Generalization in Functional Plant Ecology: The Species-Sampling Problem, Plant Ecology Strategy Schemes, and Phylogeny, M. Westoby

Index



FREE SHIPPING ON ALL ORDERS when you ORDER ONLINE at WWW.CRCPRESS.COM

Please indicate quantities next to the title(s) order

FUNCTIONAL PLANT ECOLOGY. SECOND EDITIONCatalog no. 7488, ISBN: 978-0-8493-7488-3 at \$159.95 / £92.00 each.

Other titles of interest:

ECOLOGY AND BIOMECHANICS: A MECHANICAL APPROACH TO THE ECOLOGY OF ANIMALS AND PLANTS .Catalog no. 3209, ISBN: 978-0-8493-3209-8 at \$139.95 / £79.99 each.

HANDBOOK OF PHOTOSYNTHESIS. SECOND EDITION .Catalog no. DK3138, ISBN: 978-0-8247-5839-4 at \$159.95 / £97.00 each.

PLANT-ENVIRONMENT INTERACTIONS. THIRD EDITION ..Catalog no. DK6017, ISBN: 978-0-8493-3727-7 at \$129.95 / £74.99 each.

.State/Province

	olease print c ny/Institut					
oompa	ny/monut	1011				
Addres	S		 	 		

Citv

E-Mail Address

Country **ORDERING LOCATIONS Corporate Offices** In the Americas: **Rest of the World: CRC PRESS CRC PRESS UK** 6000 Broken Sound Parkway, NW, Suite 300 CRC PRESS **CRC PRESS / ITPS** 24-25 Blades Court, Deodar Road Boca Raton, FL 33487, USA London SW15 2NU, UK P0 Box 409267 Cheriton House, North Way Atlanta, GA 30384-9267 Andover, Hants, SP10 5BE, UK Tel: 1-800-272-7737 Tel: 44 (0) 20 7017 6000 Fax: 1-800-374-3401 Fax: 44 (0) 20 7017 6747 Tel (UK): +44 (0) 1264 34 2926 Tel: 1-800-272-7737 From Outside the Continental U.S. e-mail: enquiries@crcpress.com Fax: 1-800-374-3401 Tel (Int'l): +44 (0) 1264 34 3070 Tel: 1-561-994-0555 From Outside the Continental U.S. Fax: +44 (0) 1264 34 3005 Fax: 1-561-361-6018 Tel: 1-561-994-0555 e-mail: (UK): uk.tandf@thomsonpublishingservices.co.uk e-mail: orders@taylorandfrancis.com Fax: 1-561-361-6018 e-mail: orders@taylorandfrancis.com (Int'I): international.tandf@thomsonpublishingservices.co.uk www.crcpress.com

.Zip/Postal Code.

Ordering Information: Orders must be prepaid or accompanied by a purchase order. Checks should be made payable to CRC Press. Please add the appropriate shipping and handling charge for each book ordered. All prices are subject to change without notice. If purchasing by credit card please be sure to include the 3 digit security code that appears on the back of your card in the "sec code" field provided below. U.S./Canada: All orders must be paid in U.S. dollars. TAX: As required by law, please add applicable state and local taxes on all merchandise delivered to CA, CT, FL, KY, MO, NY, and PA. For Canadian orders, please add GST. We will add tax on all credit card orders. European Orders: All orders must be paid in U.K. £. VAT will be added at the rate applicable. Textbooks: Special prices for course adopted textbooks may be available for certain titles. To review a book for class adoption, contact our Academic Sales Department or submit your textbook evaluation request online at www.crcpress.com/eval.htm Satisfaction Guaranteed: If the book supplied does not meet your expectations, it may be returned to us in a saleable condition within 30 days of receipt for a full refund.

	SHIPPING AI	ND HANDLI	NG					
Region	Delivery Time	First Title	Additional Title	For priority				
USA/Canada	3-5 Days	\$5.99	\$1.99	mail services,				
South America	7-14 Days	\$9.99	\$3.99	please contact your nearest				
Europe	3-5 Days	£2.99	£0.99	CRC PRESS office.				
Rest of World	7-21 Days	£4.99	£2.99					
🗋 Visa 🗌 MasterCar	d 🗌 American Exp	ress 🗌 C	heck Enclosed \$					
			Sec. Exp. Code Date					
Signature and Telephone Number required on all orders Month Year								
Signature			PO#					
Telephone								

If you would like to receive information from us by e-mail, please provide your e-mail address below.