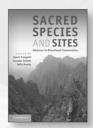
### CAMBRIDGE

### New and Forthcoming Titles from Cambridge University Press!

### Sacred Species and Sites

Advances in Biocultural Conservation Edited by GLORIA PUNGETTI, GONZALO OVIEDO, and Della Hooke \$120.00: Hb: 978-0-521-11085-3: 488 pp. \$60.00: Pb: 978-0-521-12575-8:



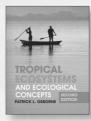
**Biodiversity in Agriculture** Domestication, Evolution, and Sustainability

Edited by PAUL GEPTS, THOMAS R. FAMULA, ROBERT L. BETTINGER, STEPHEN B. BRUSH, ARDESHIR B. DAMANIA, PATRICK E. MCGUIRE, and CALVIN O. QUALSET \$140.00: Hb: 978-0-521-76459-9: 592 pp. \$70.00: Pb: 978-0-521-17087-1

### SECOND EDITION **Tropical Ecosystems** and Ecological Concepts PATRICK L. OSBORNE

Biodiversity in Agriculture

\$55.00: Pb: 978-0-521-17734-4: 536 pp.





#### Fire in Mediterranean Ecosystems

Ecology, Evolution and Management

JON E. KEELEY, WILLIAM J. BOND, Ross A. BRADSTOCK, JULI G. PAUSAS, and PHILIP W. RUNDEL \$120.00: Hb: 978-0-521-82491-0: 528 pp.

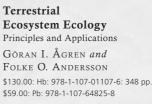
Management of **Freshwater Biodiversity** Crayfish as Bioindicators JULIAN REYNOLDS and

CATHERINE SOUTY-GROSSET \$110.00: Hb: 978-0-521-51400-2: 384 pp.





www.cambridge.org/us/lifesciences 800.872.7423





### Flowers on the Tree of Life

LOUIS RONSE DE CRAENE Systematics Association Special Volume Series \$99.00: Hb: 978-0-521-76599-2: 326 pp.

#### The Biology of **Island Floras**

Foraging

Edited by DAVID BRAMWELL and JULI CAUJAPÉ-CASTELLS \$120.00: Hb: 978-0-521-11808-8: 536 pp.



#### The Physics of Foraging An Introduction to Random Searches and Biological Encounters GANDHIMOHAN. M. VISWANATHAN, MARCOS G. E. DA LUZ,

ERNESTO P. RAPOSO, and H. EUGENE STANLEY \$50.00: Hb: 978-1-107-00679-9: 178 pp.

### THIRD EDITION A Student's Guide to the Seashore

J. D. FISH and S. FISH \$60.00: Pb: 978-0-521-72059-5: 540 pp.





**UNIVERSITY PRESS** 

Reaching for the Sun

SECOND EDITION

How Plants Work

JOHN KING



https://doi.org/10.1017/S0030605312000075 Published online by Cambridge University Press



# Online Oryx

Access to the electronic version of *Oryx* is something many of our members have asked for. We are now therefore delighted to be able to offer online access to the journal. Online access provides readers with:

- electronic access to past Oryx issues dating from 1950
- instant access (no waiting for the post!)
- access to the Oryx archive search facility
- the opportunity to reduce their use of paper and packaging

Whether you are an existing *Oryx* subscriber or are considering becoming a member of Fauna & Flora International to gain access to one of conservation's foremost journals, *Oryx* online is available to all. *Oryx* is valued around the world, both by those who read the journal and by the scientists who publish in, and use the journal, for their conservation work.

'Your support is much appreciated and comes as a breath of fresh air in this highly tensed academic atmosphere!

- Malika Virah-Sawmy, conservationist in Madagascar and Oryx author

'I have read the July issue from cover to cover and find it really informative for my MSc in Wildlife Management and Conservation.'

Kenny Armstrong, student

Online access to *Oryx* is available to both existing and new members. Those wishing to join Fauna & Flora International as a member can do so by visiting

### www.fauna-flora.org/membership.php

Once you have subscribed we will contact you to ask whether you would prefer to receive *Oryx* online or as a printed copy. If you change your mind later your preference can be amended at any time.

Existing members can contact Fauna & Flora International's Membership Secretary Ken Richard on +44 (0)1223 579472 or ken.richard@fauna-flora.org to find out more and to discuss their preference. Please rest assured that if we don't hear from you we will continue to send a printed copy of *Oryx* to you as we have done in the past.

Photo credit: JP Moreiras / FFI



# A LIFETIME DEDICATED TO CONSERVATION

## Our Vision

A sustainable future for the planet, where biodiversity is effectively conserved by the people who live closest to it, supported by the global community

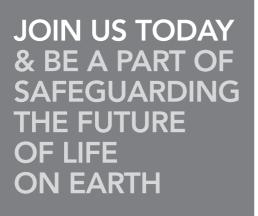
## Our Mission

Fauna & Flora International acts to conserve threatened species and ecosystems worldwide, choosing solutions that are sustainable, based on sound science and take account of human needs



**6** I have been a member of Fauna & Flora International since the 1950s... investment in the work of FFI is truly an investment in the future of our planet **99** 

Sir David Attenborough





# SUPPORT FAUNA & FLORA INTERNATIONAL

Please consider one of the following ways in which you can make a world of difference to the survival of species:

- Become a Member of Fauna & Flora International at www.fauna-flora.org/membership
- Remember Fauna & Flora International in your will at www.fauna-flora.org/leave-a-legacy
- Make a donation today at www.fauna-flora.org/donate

To find out more please see over the page.

# THANK YOU



### Innovative conservation since 1903

# CONTACT US

To find out more about how you can help **Fauna & Flora International** please get in touch in one of the following ways:

Visit our website www.fauna-flora.org

By email at info@fauna-flora.org

Contact us by **post** at one of our international offices:

In the UK: Fauna & Flora International 4th Floor, Jupiter House Station Road Cambridge CB1 2JD

In the USA: Fauna & Flora International US 1720 N Street NW, Washington DC 20036 USA

In Australia: Fauna & Flora International Australia 62 Cambridge Street Collingwood Victoria 3066 Australia

### Telephone us:

In the UK: +44 (0)1223 57 1000 In the USA: +1 202 375 7766 In Australia: +61 (0)3 9416 5220

## THANK YOU

### **Instructions for Contributors**

*Oryx—The International Journal of Conservation*, published quarterly on behalf of Fauna & Flora International, is a journal of biodiversity conservation, conservation policy and sustainable use, and the interactions of these with social, economic and political issues. The journal has a particular interest in material with the potential to improve conservation management and practice. *Oryx* also supports the publishing and communication aspirations of conservation, practitioners and researchers worldwide, and helps build capacity for conservation.

Articles (2,000–7,000 words), Reviews (<7,000 words), Forum papers (<4,000 words) and Short Communications (<2,000 words) are invited on topics relevant to the journal's focus, including:

- The nature and results of conservation initiatives, including case studies
- Research on the sustainable use of wild species
- Research on the status of threatened species, taxonomic groups or habitats
- · Reviews of conservation policy, strategy and legislation in practice
- Planning for species and biodiversity conservation
- The working of international conservation conventions
- The history of conservation, including the role of key people, organizations and initiatives
- The causes and consequences of biodiversity loss
- Case studies of conservation projects and programmes
- The social, economic and political dimensions of conservation

*Reviews* provide comprehensive overviews of a particular conservation topic. *Forum* papers promote debate about current and controversial issues, usually with critical responses commissioned from one or more authors. *Articles* on the status of threatened species, taxonomic groups or habitats should generally be <4,500 words and have, where relevant, a context beyond that of the subject studied.

Submission Online at http://mc.manuscriptcentral.com/oryx (see http://www. oryxthejournal.org for further advice). Upon submission the Corresponding Author will be required to confirm that: (1) the submitted manuscript has not been published or submitted for publication elsewhere, (2) all authors have read the submitted manuscript and agreed to its submission, and (3) all authors have abided by the Code of Conduct for authors contributing articles (see Oryx, 35, 99-100 or http://www.oryxthejournal.org). If there is overlap with other articles, including any in press or in preparation, this should be stated and the articles in question sent to the Editor. Both quantitative and qualitative methodology used in the reported work should be appropriate to the research question and must be clearly described. Management recommendations should be made where appropriate, and details of any implementation provided.

Age of data Where relevant, dates of any fieldwork must be provided. *Oryx* publishes research with the potential to have an impact on conservation outcomes. This requires conclusions to be based upon the best available and up-to-date information and analysis and we therefore look carefully at all manuscripts in which conclusions are based on field data collected some time ago (generally >4 years). We recognize, however, the value of historical field or collection records but require evidence that these studies are directly relevant to effective conservation. Bear this policy in mind when submitting your manuscript and, if the data and/or associated analyses are not recent, justify, both in your cover letter and in the manuscript, the use of these data in terms of the conservation relevance of your findings.

Preparation of manuscripts Consult a recent issue of Oryx for general style. Contributions should be in English, with British English spelling and terminology, double-spaced, without footnotes, and with line numbers. Submissions, which can be a single file with all Tables, Figures, Plates and Appendices at the end or with text and other elements in separate files, must be in DOC format (not PDF). For submission, graphics can be in low to medium resolution as long as they are clearly legible, with publication-quality graphics to be provided upon any final acceptance. Cover page should contain title, word count (all inclusive except for Tables and Figure and Plate captions), and full mailing address, e-mail, and address at the time the research was carried out, if different, of the corresponding author and all additional authors. Pages to be numbered, and order of sections to be: cover page, main text, biographical sketches, Tables, Figure and Plate captions, Figures, Plates. Short Communications must not have any subheadings.

*Title* A succinct description of the work ( $\leq 20$  words) preferably embodying either the aim or the overall conclusion.

Abstract In <250 words the aims, methods, major findings and conclusions; should be informative without reference to the text and should not contain any references or undefined abbreviations.

*Keywords* Up to eight pertinent words or phrases, in alphabetical order (these can repeat words in the title).

*Structure* Articles should generally follow the Introduction, Study Area (where appropriate), Methods, Results and Discussion format. Minimize use of other subheadings.

*References* Must be formatted in the journal's style (see details in the full Instructions for Contributors at http://www.oryxthejournal.org). Cite in the text as, for example, Hardcastle & Wilson (1996) or (Leadbeater, 1996). For three or more authors use the first author's surname followed by et al.. Multiple references to be in chronological, then alphabetical, order. Reference list should be in alphabetical order, and article titles and the titles of serial publications to be given in full. If citations and bibliography are prepared using a bibliography manager any field codes, tags or similar must be removed.

*Biographical sketches* The research interests of all authors (<150 words total), over and above what is obvious from the subject of the manuscript and the authors' affiliations.

*Tables* Each on a separate page, with captions that are comprehensible without reference to the text.

Figures & Plates See the Guidelines for the preparation of Figures and Plates at http://www.oryxthejournal.org. Captions should be comprehensible without reference to the text

*Appendices* For mathematical or statistical models, lengthy tables, and questionnaires. May be published online-only, depending on length. Online-only appendices can also include Figures and Plates, and these can be in colour.

*Abbreviations* Minimize use, and provide full expansion of any at first mention in the text.

*Symbols, units & currencies* Use SI units (International System of Units, http://www.bipm.org/en/si/) and ISO 4217 currency codes (http://www.iso. org/iso/support/faqs/faqs\_widely\_used\_standards/widely\_used\_standards\_ other/currency\_codes/currency\_codes\_list-1.htm).

*Nomenclature* Where necessary provide the basis used for nomenclature of taxa. The first time a species is mentioned its scientific name should follow without intervening punctuation, thus African elephant *Loxodonta africana*. English names should be in lower case throughout except when they incorporate a proper name.

Offprints, page charges & colour figures Contributors receive a PDF file of their article, and may purchase offprints. No page charges are levied. Colour Figures can be published but only at the author's expense.

*Copyright* Authors will be asked, upon acceptance of an article, to transfer copyright to Fauna & Flora International.

*Review* Manuscripts are subject to rigorous peer review. Contributors may suggest appropriate reviewers. For manuscripts with a substantial statistical content, one of the reviewers will be a statistician. The main criteria for acceptance are originality, scientific rigour, an appropriately broad context, relevance to the readership and acceptability of style. We receive more submissions than we are able to publish and the final authority in all matters relating to publication lies with the Editor.

*Proofs* Sent to authors as a PDF file. Corrected proofs must be returned to the Editor within 3 days of receipt; minor corrections can be communicated by e-mail.

The Editor welcomes contributions to the other sections of the journal (deadlines for the January, April, July and October issues are 1 October, 1 January, 1 April and 1 July, respectively), by e-mail to oryx@fauna-flora.org (see http://www.oryxthejournal.org for further advice).

*Letters* Substantial and informative contributions (<700 words) in response to material published in the journal.

*Briefly* News (<6 months old) of general conservation interest based on authoritative published sources (<150 words), including reputable web sites.

*Conservation news* Major recent developments (<6 months old) in conservation or important announcements (<700 words), other than from publi shed sources.

*Grants & Opportunities and Publications* Availability of grants or funding opportunities and book reviews, respectively. Authors and publishers are invited to send publications to the Editor for potential review.

The full Instructions for Contributors (including the Guidelines for preparation of Figures & Plates and the Code of Conduct for authors contributing articles) are available at http://www.oryxthejournal.org or from the Editor, Oryx—The International Journal of Conservation, Fauna & Flora International, 4th Floor, Jupiter House, Station Road, Cambridge, CB1 2JD, UK; E-mail oryx@fauna-flora.org; Tel. +44 (0)1223 571000; Fax +44 (0)1223 461481.

Oryx is covered by Biological Abstracts, BIOBASE/Current Awareness in Biological Sciences, Current Contents Agriculture, Biology and Environmental Science, Science Citation Index, SciSearch, Research Alert and Ecology Abstracts.



- 1 Of PES and other animals, Sven Wunder
- 3 Briefly
- 13 Conservation news

#### Forum

18 Bring the captive closer to the wild: redefining the role of ex situ conservation, *D.J. Pritchard, J.E. Fa, S. Oldfield* & S.R. Harrop

### Payments for ecosystem services

- 24 Payments for ecosystem services in an African protected area: exploring issues of legitimacy, fairness, equity and effectiveness, *N.D. Gross-Camp, A. Martin, S. McGuire, B. Kebede & J. Munyarukaza*
- Towards operational payments for water ecosystem services in Tanzania: a case study from the Uluguru Mountains,
  D. Lopa, I. Mwanyoka, G. Jambiya, T. Massoud,
  P. Harrison, M. Ellis-Jones et al.
- 45 No pay, no care? A case study exploring motivations for participation in payments for ecosystem services in Uganda, *J. Fisher*
- 55 Water funds and payments for ecosystem services: practice learns from theory and theory can learn from practice, *R.L. Goldman-Benner*, *S. Benitez*, *T. Boucher*, *A. Calvache*, *G. Daily*, *P. Kareiva et al.*

### **Conservation issues in the Americas**

- 64 Greater sage-grouse *Centrocercus urophasianus* migration links the USA and Canada: a biological basis for international prairie conservation, *J.D. Tack*, *D.E. Naugle*, *J.C. Carlson & P.J. Fargey*
- 69 Small-scale gill-net fisheries cause massive green turtle *Chelonia mydas* mortality in Baja California Sur, Mexico, *A. Mancini, V. Koch, J.A. Seminoff & B. Madon*
- Distribution and abundance of Darwin's finches and other land birds on Santa Cruz Island, Galápagos: evidence for declining populations, *M. Dvorak, B. Fessl, E. Nemeth, S. Kleindorfer & S. Tebbich*
- 87 Range-wide declines of a key Neotropical ecosystem architect, the Near Threatened white-lipped peccary *Tayassu pecari, M. Altrichter, A. Taber, H. Beck, R. Reyna-Hurtado, L. Lizarraga, A. Keuroghlian & E.W. Sanderson*

- 99 Response of guanacos Lama guanicoe to changes in land management in Península Valdés, Argentine Patagonia: conservation implications, M.V. Burgi, A. Marino, M.V. Rodríguez, G. Pazos & R. Baldi
- The ecological role of native and introduced species in the diet of the puma *Puma concolor* in southern Patagonia, *J.I. Zanón Martínez, A. Travaini, S. Zapata, D. Procopio* & M.A. Santillán
- 112 The UK great bustard *Otis tarda* reintroduction trial: a 5-year progress report, *R.J. Burnside*, *I. Carter, A. Dawes*, *D. Waters, L. Lock, P. Goriup & T. Székely*
- 122 *Review* The precipitous decline of the ortolan bunting *Emberiza hortulana*: time to build on scientific evidence to inform conservation management, *M.H.M. Menz* & *R. Arlettaz*
- 130The protection of the bat community in the Dupnisa<br/>Cave System, Turkey, following opening for tourism,<br/>S. Paksuz & B. Özkan
- 137 Mobile phone communication in effective human– elephant conflict management in Laikipia County, Kenya, M.D. Graham, W.M. Adams & G.N. Kahiro
- 145 Current status and conservation of the Endangered Przewalski's gazelle *Procapra przewalskii*, endemic to the Qinghai–Tibetan Plateau, China, *C. Li, Z. Jiang, X. Ping, J. Cai, Z. You, C. Li & Y. Wu*

#### Book reviews

- 154 Community Forest Monitoring for the Carbon Market: Opportunities under REDD
- 154 A Thousand Years of Whaling: A Faroese Common Property Regime
- 155 Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife

*Cover* Can payments for ecosystem services (PES) reconcile conservation and development goals? A case study of an experimental PES intervention around Nyungwe National Park in Rwanda involves the purchase of biodiversity conservation services from local communities and explores issues of legitimacy, fairness, equity and effectiveness. This and studies in Tanzania, Uganda and South America examine the growing interest in the use of PES schemes to achieve conservation and environmental goals. For further details see pp. 1–2 and 24–63. (Photograph © Michele Menegon/Ardea).





MIX Paper from responsible sources FSC<sup>®</sup> C007785 Supported by

