

THE PACIFIC CIRCLE



April 2021

BULLETIN NO. 46

ISSN 1520-3581

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PACIFIC CIRCLE NEWS and NOTES

Business Matters

The Pacific Circle is trying to honor international efforts to reduce carbon and paper. We will continue to publish hard copies of the *Bulletin*, but please let the editor know if you would prefer to only receive an electronic copy.

The editor can be reached at peterh@hawaii.edu.

In keeping with that goal, the editor will do his best to fulfill obligations and share information online. Do not hesitate to send information about publications and conferences, or research questions, which you would like shared with our membership.

The University of Hawai'i Foundation requests that dues and contributions made by check be made payable to "The U.H. Foundation" with "The Pacific Circle" in the memo space. The subscription and dues rates remain US\$25.00 for individuals and US\$35.00 for institutions. Dues must be paid by check or credit card. Contributions can be made online.

The Circle web site includes documents from conferences, links to affiliated and complementary groups, a blog with information about events and publications, and an option for searching previous issues of *The Bulletin*.
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The editor prepares issues of the *Bulletin* for potential new members, conferences, and departments. Please notify the editor if you would like to take copies with you to a conference or if a colleague might appreciate a copy. Thank you.

FUTURE MEETINGS, CONFERENCES and CALLS FOR PAPERS

Fall 2021. "Climate Change in the Pacific: Exploring Indigenous Voices on Climate Change." Climate change is unequivocally having a detrimental impact on the lives of many Pacific island peoples. This has only been exacerbated by the COVID-19 pandemic, which has put enormous strains on already fragile systems. The lack of media attention on climate change in the wake of the pandemic has shifted global attention from the plight of a number of Pacific islands. As such, it is important to consistently create space for continued discussion on climate change within the Pacific.

With this in mind, The Centre For Austronesian Studies (COAST) within the Institute for the Study of the Asia Pacific (ISAP) at the University of Central Lancashire (UCLan) would like to invite papers from various disciplines to explore

the current narratives and conversations on the effect of climate change in the Pacific. These papers will be published as an edited volume.

Themes include but are not limited to:

- Indigenous Voices and Indigeneity in the face of climate change.
- Climate-change denialism within the Pacific and de-colonialization of climate narratives.
- Climate youth activism among Pacific island peoples.
- Constructions of identity and forced relocation of Pacific island peoples.
- Constructions of narrative around Pacific climate concerns.
- Socio-cultural studies and Pacific climate change.

Contact email: ISAPUCLan@uclan.ac.uk; phone 01772 89 4511.

30 September – 2 October 2021. “International Conference: Australian Seascapes (renewed CFP)” will be held at Trier University, Trier, Germany. The conference will discuss Australian seascapes in an interdisciplinary perspective, including (but not restricted to) contributions from the fields of Cultural Studies, History, Political Science, Anthropology, and Geography. Originally planned for 2020, the conference was postponed due to COVID-19 and now rescheduled. The conference will include a virtual stream. All proposals previously sent are included for 2021. Please contact PD Dr. Eva Bischoff, International History, Trier University at: australianseascapes2020@gmail.com.

17 – 20 November 2021. The Pacific History Association (PHA) 24th Biennial conference “In Their Own Words” will be held at the University of the South Pacific in Suva, Fiji. Given the uncertainty of the global COVID-19 situation, the combined face-to-face/online conference will enable those who are unable to travel to Fiji to participate. Call for Panel Proposals: A panel summary proposal (maximum 300 words) should be submitted via this form: <https://forms.gle/DDqYY8A37i7RWB7fA>. **Due date: 1 August 2021.** The draft paper should be submitted via email to Dr. Adrian Muckle, PHA Secretary, adrian.muckle@vuw.ac.nz. To honor the profound legacy of Teresia Tealiwa, former President and Secretary of PHA, the PHA Teresia Tealiwa Prize (NZ\$1000) will be awarded to a presentation at the conference. For more information on the competition, contact Dr. Jacqui Leckie, Chair, Teresia Tealiwa Prize Komiti, jacqui.leckie@otago.ac.nz. In addition, the Gunson Essay prize (\$AUD 1,000) will be awarded by *The Journal of Pacific History* in conjunction with the biennial conference. For further details, contact *The Journal of Pacific History*, jph@anu.edu.au. Association information is found at <https://www.pacifichistoryassociation.net>.

1 - 4 December 2021. The 17th Biennial Conference of the Australian and New Zealand Society of the History of Science, Medicine and Technology will be held at the City campus of the University of Newcastle, Australia, and local venues. The

conference will include both traditional in-person sessions and some dedicated online streams designed for presenters and audiences who cannot travel. Titled “Innovation in Health and Medicine,” the conference CFP has been extended to 30 April 2021. Registration costs and processes will be posted before the middle of 2021 on the ANZSHM website, <<https://www.anzshm.org.au/conferences>>. Scholars working on social and cultural histories of health and medicine are invited to contribute papers that specifically address past, present or future innovation. Consult the website for more information, or email Dr. Jan McLeod at jan.mcleod@newcastle.edu.au.

BOOK, JOURNAL, EXHIBITION and RESEARCH NEWS

The July 2020 74:3 issue of *Pacific Science - Project MUSE* includes these articles: “Cruising the Currents: Observations of Extra-Limital Saltwater Crocodiles (*Crocodylus porosus* Schneider, 1801) in the Pacific Region” by **Dirk H.R. Spennemann**, 211-213; Vegetation Patterns in Waisoi Primary Rainforest, Southeast Viti Levu, Fiji” by **Marika Tuiwawa**, **Sarah Pene**, and **Linton Winder**, 229-243; “Diet Analysis of Hawai‘i Island’s *Blackburnia hawaiiensis* (Coleoptera: Carabidae) using Stable Isotopes and High-Throughput Sequencing” by **K. Roy**, **C.P. Ewing**, and **D.K. Price**, 245-256, “A New Species of *Eutiara*, in the Pandeidae Family (Cnidaria: Hydrozoa: Anthoathecata) from Tahiti Island, French Polynesia” by **Anthony Berberian**, **Fabien Michenet**, and **Jacqueline Goy**, 257-268; “Temporal and Spatial Abundance of *Acanthaster* cf. *solaris* (Echinodermata: Asteroidea) in a National Park in the Gulf of California, Mexico: 2005-2016” by **Jenny Carolina Rodríguez-Villalobos**, **Carlos Hernández-Carreón**, **Héctor Reyes-Bonilla**, **Bárbara Rojas-Montiel**, and **Amy Hudson Weaver**, 269-282; “Variation in the Size-Structure of Dominant Branching Coral Taxa (Acroporidae: *Acropora*) and (Pocilloporidae: *Pocillopora*) in New Ireland Province, Papua New Guinea” by **Peter T. Pellitier**, 283-299; “First Occurrence of the Genus *Australatya* (Crustacea: Decapoda: Atyidae) in Melanesia and Polynesia with Description of a New Species” by **Camille Lorang**, **Gérard Marquet**, **Valentin de Mazancourt**, 297-308; and “Susceptibility of Endemic *Myoporum* (Naio) Species and Populations to *Klambothirps myopori* in Hawai‘i” by **Leyla V. Kaufman**, **Dominique R. Zarders**, and **Mark G. Wright**, 309-318.

The November 2020 issue of *Historical Studies in the Natural Sciences (HSNS)*, Vol. 50:5 is devoted to the theme: Pacific Biologies: How Humans Become Genetic. In conjunction with this issue, Lorraine Weston organized an interview on the University of California Press blog. **Warwick Anderson** and **Susan Lindee** discuss the topic, “Decolonizing Histories of Genetics.” The video interview is available online at: <<https://www.ucpress.edu/blog/53856/decolonizing-histories-of-genetics/>>.

The theme for the latest *Microbiology Australia* issue, Volume 41:4,

November 2020, is “Yesterday, Today and Tomorrow: Plagues, Pestilence and Pandemics.” To illustrate the power and persistence of infectious disease, there are articles on influenza, leprosy, poliomyelitis, tuberculosis, and gonorrhea. There are articles about scientists like CJ Martin, Pasteur, Burnet, and many others who are less well known. They not only contributed to countering these scourges, but also helped to build the great institutions: CSL and AAHL (now renamed ACDP). The history of vaccination takes a special place for two reasons – that it is the only way infectious disease has ever been eliminated, and that it is so much the current focus for our path back to normality. *Microbiology Australia* is the official journal of the Australian Society for Microbiology Inc.

The December 2020 14:4 issue of *East Asian Science, Technology and Society: an International Journal - Project MUSE*, now published by Taylor & Francis, includes these articles: “The Politics of Science and Undone Protection in the ‘Samsung Leukemia’ Case” by **Jongyoung Kim, Heevun Kim, and Jawoon Lim**, 573-601; “Reformulation and Appropriation of Traditional Knowledge in Industrial Ayurveda: The Trajectory of Jeevani” by **Harilal Madhavan and Jean-Paul Gaudillière**, 603-621; “Invulnerable Facts: Infant Mortality and Development in Nationalist Gansu” by **Joshua A. Hubbard**, 623-645; “From SARS to COVID-19: Rethinking Global Health Lessons from Taiwan” by **Wayne Soon**, 647-655; “Contact Tracing and COVID-19: The South Korean Context for Public Health Enforcement” by **John P. DiMoia**, 657-665; “Dialogue Across Borders: Angela Su’s Chimeric Antibodies” by **Angela Su and Harry Yi-Jui Wu**, 667-670; and “Duke as Spine,” by **Chia Ling Wu**, 671-673.

The 2020 issue of *Journal of Southern Hemisphere Earth Systems Science*, Vol. 70:1, presents six papers regarding Atmospheric Rivers in the Australia-Asian Region. It also includes a report on the Bureau of Meteorology Annual R&D Workshop 2019. The workshop brought together experts from weather, water, ocean, and climate services who discussed ways we can work together to provide the Australian and international communities with improved services and better decision-making abilities, resulting in greater impact and value.

Oceania features a special issue: “Oceania Societies in COVID-19,” by editors **Ute Eickelkamp** and **Sophie Chao**, *Oceania* 90:S1 published December 2020, <<https://onlinelibrary.wiley.com/toc/18344461/2020/90/S1>>.

Kew’s Miscellaneous Reports Collection is a major resource relating to colonial and global networks of economic botany and scientific activity between 1850-1928. The *Collection* contains 772 volumes of unique archival and rare printed material which provides evidence of the plants and plant products, botanists, commercial interests, and gardeners, moving across an expanding web of botanic gardens and agricultural and forestry stations. It holds huge potential for both historical and scientific research, including imperial history, the use of plants by

indigenous communities, medicine, nutrition and health, the environment, as well as anthropology, ethnography, and agricultural history. It is also a crucial source of evidence for critically examining and confronting Kew's own history and colonial role. Discover the central themes of botany, trade and empire, and explore the collection's challenges, from revealing the unheard voices of the past, to realising the future potential of this colonial archive. Visit <<https://www.kew.org/science/our-science/projects/miscellaneous-reports>>.

PACIFIC BIBLIOGRAPHY: SELECT RECENT and FORTHCOMING PUBLICATIONS

BOOKS and BOOK CHAPTERS

Australian Weevils (Coleoptera: Curculionoidea), Volume IV, by **Rolf Oberprieler** and **Elwood Zimmerman**, CSIRO Publishing, 2020.

Bringing Whales Ashore – Oceans and the Environment of Early Modern Japan, by **Jakobina K. Arch**, University of Washington Press, 2020.

Coastal Plants: A Guide to the Identification and Restoration of Plants of the Greater Perth Coast, by **Kingsley Dixon**, 2nd edition, CSIRO Publishing, 2020.

The Complete Field Guide to Dragonflies of Australia, Second Edition, by **Günther Theischinger**, **John Hawking**, and **Albert Orr**, CSIRO Publishing, 2021.

GM Crops and the Global Divide, by **Jennifer Thomson**, CSIRO Publishing, 2020.

Gardens of Gold – Place-Making in Papua New Guinea, by **Jamon Alex Halvaksz**, University of Washington Press, 2020.

The Handbook of New Zealand Mammals, Third Edition, by **Carolyn King** and **David Forsyth**, CSIRO Publishing, 2021.

The Invertebrate World of Australia's Subtropical Rainforests, by **Geoff Williams**, CSIRO Publishing, 2020.

Photographic Field Guide to Australian Frogs, by **Mark Sanders**, CSIRO Publishing, 2021.

Plants of Subtropical Eastern Australia, by **Andrew Benwell**, CSIRO Publishing, 2020.

The Way of the Weedy Seadragon, by **Anne Morgan** and **Lois Bury**, CSIRO Publishing, 2021.

Wetlands in a Dry Land, More-Than-Human Histories of Australia's Murray-Darling Basin, by **Emily O'Gorman**, Series Edited by **Paul S. Sutter**, University of Washington Press, 2021.



ARTICLES and ESSAYS

“The 1840 Western Port Journey and Aboriginal Fire History in the Grassy Ecosystems of Lowland, Mesic South-Eastern Australia,” by **Paul Foreman**, *Australian Journal of Botany* 68:4 (2020), 320-332.

“The 1918 Spanish Influenza Pandemic: *plus ça change, plus c’est la même chose*,” by **Paul Selleck** and **Ross Barnard**, *Australian Mammalogy* 42:3 (2020), 177-182.

“*Anthopleura mariae* sp. nov. (Cnidaria: Actiniaria: Actiniidae), A New Species of Sea Anemone from the Mexican Pacific,” by **Aurora Vassallo-Avalos**, **Ricardo González-Muñoz**, **Fabián H. Acuña**, and **Gerardo Rivas**, *Pacific Science* 74:2 (2020), 159-170.

“Antibiotic Pollution and Risk Assessment Under Different Cultivation Modes in Aquaculture Ponds of the Taihu Lake Basin, China,” by **Yan Yan**, **Yang Deng**, **Min Ji**, **Xiaoguang Xu**, **Limin Zhang**, and **Guoxiang Wang**, *Marine and Freshwater Research* 71:10 (2020), 1234-1240.

“Assessment of an Invasive Tropical Sponge on Coral Reefs in Hawai‘i,” by **Joy L. Shih** and **Brian N. Popp**, *Pacific Science* 74:2 (2020), 175-187.

“Atmospheric Rivers associated with Summer Heavy Rainfall over the Yangtze Plain,” by **Ping Liang**, **Guangtao Dong**, **Huqiang Zhang**, **Mei Zhao**, and **Yue Ma**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 54-69.

“Atmospheric Rivers Impacting Mainland China and Australia: Climatology and Interannual Variations,” by **Xian-Yun Wu**, **Chengzhi Ye**, **Weiwei He**, **Jingjing Chen**, **Lin Xu**, and **Huqiang Zhang**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 70-87.

“Atmospheric Rivers in the Australia-Asian Region,” by **Carsten Frederiksen**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 1-2.

“Atmospheric Rivers in the Australia-Asian Region: a BoM–CMA Collaborative Study,” by **Chengzhi Ye**, **Huqiang Zhang**, **Aurel Moise**, and **Ruping Mo**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 3-16.

“Atmospheric Rivers in the Australia-Asian Region under Current and Future Climate in CMIP5 Models,” by **Ying Xu**, **Huqiang Zhang**, **Yanju Liu**, **Zhenyu Han**, and **Botao Zhou**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 88-105.

“Australia and the International Astronomical Union: The 2003 Sydney General Assembly,” by **Nick Lomb**, *Historical Records of Australian Science* 32:1 (2020), 83-97.

“Australian Bogong Moths *Agrotis infusa* (Lepidoptera: Noctuidae), 1951-2020 Decline and Crash,” by **Ken Green**, **Peter Caley**, **Monika Baker**, **David Dreyer**, **Jesse Wallace**, and **Eric Warrant**, *Austral Entomology* 59:4 (2020), 819-828.

“The Australian Earth System Model: ACCESS-ESM1.5,” by **Tilo Ziehn**, **Matthew A. Chamberlain**, **Rachel M. Law**, **Andrew Lenton**, **Roger W. Bodman**,

Martin Dix, Lauren Stevens, Ying-Ping Wang, and Jhan Srbinovsky, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 193-214.

“Australian Rangelands Science – A Strategic National Asset,” by **Andrew Campbell**, *The Rangeland Journal* 42:5 (2020), 261-264.

“Big Trouble for Little Fish: Identifying Australian Freshwater Fishes in Imminent Risk of Extinction,” by **Mark Lintermans, Hayley M. Geyle, Stephen Beatty, Culum Brown, Brendan C. Ebner, Rob Freeman, Michael P. Hammer, William F. Humphreys, Mark J. Kennard, Pippa Kern, Keith Martin, David L. Morgan, Tarmo A. Raadik, Peter J. Unmack, Rob Wager, John C.Z. Woinarski, and Stephen T. Garnett**, *Pacific Conservation Biology* 26:4 (2020), 365-377.

“Bio-economic Evaluation of Grazing-management Options for Beef Cattle Enterprises During Drought Episodes in Semiarid Grasslands of Northern Australia,” by **M.K. Bowen, F. Cudleigh, and D. Phelps**, *Animal Production Science* 61:1 (2020), 72-83.

“Bloodworlds: A Hematology of the 1952 Indo-Australian Genetical Survey of the Chenchus,” by **Projit Bihari Mukharji**, *Historical Studies in the Natural Sciences* 50:5 (2020), 525-553.

“Border Closures: Experiences of Ni-Vanuatu Recognized Seasonal Employer Scheme Workers,” by **Rochelle-Lee Bailey**, *Oceania* 90:S1 (2020), 68-74.

“Breeding Habitat, Nest-site Characteristics and Productivity of the Little Eagle (*Hieraaetus morphnoides*) near Armidale, New South Wales,” by **Candice Larkin, Ross Jenkins, Paul G. McDonald, and Stephen J.S. Debus**, *Pacific Conservation Biology* 26:3 (2020), 258-268.

“A Brief History of AAHL,” by **Paul Selleck**, *Australian Mammalogy* 42:3 (2020), 210-212.

“The Bryozoan Genus *Conopeum* (Electridae) in New Zealand, with Description of a New Species and Discussion of the Morphological and Genetic Characters of *Conopeum seurati* (Canu, 1928),” by **Dennis P. Gordon, Judy E. Sutherland, Brenda A. Perez, Andrea Waeschenbach, Paul D. Taylor, and Emanuela Di Martino**, *Journal of Natural History* 54:15-16 (2020), 947-970.

“Bureau of Meteorology Annual R&D Workshop 2019,” by **Diana Greenslade and Leon Majewski**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 106-107.

“Captain Cook Upon Changing Seas: Indigenous Voices and Reimagining at the British Museum,” by **Annemarie McLaren and Alison Clark**, *The Journal of Pacific History* 55:3 (2020), 418-431.

“Capturing the Experiences of Samoa: The Changing Food Environment and Food Security in Samoa during the COVID-19 Pandemic,” by **Tagialofa Emilata, Priscilla Asem, Junior Levi, Tamala Iosua, Agalelei Ioane, Valu Seupoai, Mika Eteuati, Pesi Solipo, Tautane Nuu, and Ramona Boodoosingh**, *Oceania* 90:S1 (2020), 116-125.

“Carbon Sources supporting Australia’s Most Widely Distributed Freshwater Fish, *Nematalosa erebi* (Günther) (Clupeidae: Dorosomatinae),” by **Bradley J. Pusey, Timothy D. Jardine, Leah S. Beesley, Mark J. Kennard, Tze Wai Ho, Stuart E. Bunn, and Michael M. Douglas**, *Marine and Freshwater Research* 72:2 (2020), 288-298.

“Carnivory in Euros, Inland Wallaroos (*Macropus robustus erubescens*),” by **Keith E.A. Leggett, Amoi Stubbs-Oliver, Matthew L. Brun, and Terence J. Dawson**, *Australian Mammalogy* 42:3 (2020), 321-328.

“Case Studies of Atmospheric Rivers over China and Australia: New Insight into their Rainfall Generation,” by **Jingjing Chen, Huqiang Zhang, Chengzhi Ye, Hongzhuan Chen, and Ruping Mo**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 17-35.

“A Case Study of Environmental Offsets for the Endangered Carnaby’s Cockatoo (*Calyptorhynchus latirostris*),” by **Brooke Richards, Miriam Sullivan, and Peter R. Mawson**, *Pacific Conservation Biology* 26:3 (2020), 269-281.

“‘Casey did very good work for Wheeler and you are lucky to have him’: Dermot Casey’s Under-appreciated Importance in Australian Archaeology,” by **Matthew Spriggs**, *Historical Records of Australian Science* 32:1 (2020), 1-14.

“Challenges, Solutions and Research Priorities for Sustainable Rangelands,” by **Uffe N. Nielsen, Mark Stafford Smith, Graciela I. Metternicht, Andrew Ash, Alex Baumber, Matthias M. Boer, Sandy Booth, Don Burnside, Amber C. Churchill, Marwan El Hassan, Margaret H. Friedel, Cecile M. Godde, Dana Kelly, Mick Kelly, John F. Leys, Sarah E. McDonald, Yiheyis T. Maru, David G. Phelps, Malcolm Ridges, Geoff Simpson, Barry Traill, Brian Walker, Cathleen M. Waters, and Angus W. Whyte**, *The Rangeland Journal* 42:5 (2020), 359-373.

“Changes in a Peri-urban Butterfly Assemblage Over 80 Years Near Melbourne, Australia,” by **Michael F. Braby, Matthew R. Williams, Fabian Douglas, Campbell Beardsell, and David F. Crosby**, *Austral Entomology* (2021), available online at <<https://doi.org/10.1111/aen.12514>>.

“Characteristics of Aerobic Methane-oxidising Bacterial Community at the Seafloor Surface of the Nankai Trough,” by **Noriko Okita, Toshihiro Hoaki, Shinya Suzuki, and Masashi Hatamoto**, *Marine and Freshwater Research* 71:10 (2020), 1252-1258.

“Chinese Degraded Grasslands – Pathways for Sustainability,” by **David R. Kemp, Karl Behrendt, Warwick B. Badgery, Guodong D. Han, Ping Li, Yingjun Zhang, Jianping Wu, and F.J. Hou**, *The Rangeland Journal* 42:5 (2020), 339-346.

“Climate Change, Mental Health, and Well-Being for Pacific Peoples: A Literature Review,” by **Jemaima Tiatia-Seath, Trish Tupou, and Ian Fookes**, *The Contemporary Pacific* 32:2 (2020), 399-430.

“Climate Sensitivity Revisited,” by **G.P. Ayers**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 151-159.

“Climate Services in the UK Met Office – Challenges and Solutions,” by **Chris D. Hewitt**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 139-142.

“Climatology of Wind Changes and Elevated Fire Danger over Victoria, Australia,” by **Graham Mills, Sarah Harris, Timothy Brown, and Alex Chen**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 290-303.

“Commentary on the Under-valuing of Australia’s Expertise in Drylands Research and Practice Globally,” by **Graciela Metternicht and Mark Stafford Smith**, *The Rangeland Journal* 42:5 (2020), 253-260.

“A Comparison of an Environmental Impact Assessment (EIA) Vertebrate Fauna Survey with a Post-approval Fauna Salvage Program: Consequences of not Adhering to EIA Survey Guidelines, a Western Australian Example,” by **Graham G. Thompson and Scott A. Thompson**, *Pacific Conservation Biology* 26:4 (2020), 412-419.

“Comparison of Bacterial Communities Associated with *Prorocentrum donghaiense* and *Karenia mikimotoi* Strains from Chinese Coastal Waters,” by **Ruoyu Guo, Pengbin Wang, Douding Lu, and Xinfeng Dai**, *Marine and Freshwater Research* 71:12 (2020), 1662-1671.

“A Comparison of Urban and Peri-urban/hinterland Nocturnal Birds at Brisbane, Australia,” by **Graham R. Fulton, Grace R. Fulton, and Yee Wan Cheung**, *Pacific Conservation Biology* 26:3 (2020), 239-248.

“Configuration and Spin-up of ACCESS-CM2, the New Generation Australian Community Climate and Earth System Simulator Coupled Model,” by **Daohua Bi, Martin Dix, Simon Marsland, Siobhan O’Farrell, Arnold Sullivan, Roger Bodman, Rachel Law, Ian Harman, Jhan Srbinovsky, Harun A. Rashid, Peter Dobrohotoff, Chloe Mackallah, Hailin Yan, Anthony Hirst, Abhishek Savita, Fabio Boeira Dias, Matthew Woodhouse, Russell Fiedler, and Aidan Heerdegen**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 225-251.

“Conservation in the Wake of Myrtle Rust – A Case Study on Two Critically Endangered Australian Rainforest Plants,” by **K.D. Sommerville, P. Cuneo, G. Errington, R.O. Makinson, S. Pederson, G. Phillips, A. Rollason, V. Viler, and C.A. Offord**, *Pacific Conservation Biology* 26:3 (2019), 218-229.

“Conservation Pest Control with New Technologies: Public Perceptions,” by **Edith Anne MacDonald, Mary Beth Neff, Eric Edwards, Fabien Medvecky, and Jovana Balanovic**, *Journal of the Royal Society of New Zealand* (2021) available online at <<https://doi.org/10.1080/03036758.2020.1850481>>.

“Conservation Value of a Subtropical Reef in south-eastern Queensland, Australia, Highlighted by Citizen-science Efforts,” by **Monique G.G. Grol, Julie Vercelloni, Tania M. Kenyon, Elisa Bayraktarov, Cedric van den Berg, Daniel Harris, Jennifer Loder, Morana Mihaljević, Phebe I. Rowland, and Chris Roelfsema**, *Marine and Freshwater Research* 72:1 (2020), 1-13.

“Contact Tracing (Honolulu, HI, March 22, 2020),” by **Craig Santos Perez**, *Oceania* 90:S1 (2020), 139-140.

“Contact Tracing and COVID-19: The South Korean Context for Public Health Enforcement,” by **John P. DiMoia**, *East Asian Science, Technology and Society* 14:4 (2020), 657-665.

“Content Enhancement with Augmented Reality and Machine Learning,” by **Justin Freeman**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 143-150.

“Corrigendum to: ACCESS-S1: The New Bureau of Meteorology Multi-week to Seasonal Prediction System,” by **Debra Hudson, Oscar Alves, Harry H. Hendon, Eun-Pa Lim, Guoqiang Liu, Jing-Jia Luo, Craig MacLachlan, Andrew G. Marshall, Li Shi, Guomin Wang, Robin Wedd, Griffith Young, Mei Zhao, and Xiaobing Zhou**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 393-393.

“Corrigendum to: Epidemic Poliomyelitis, Post-poliomyelitis Sequelae and the Eradication Program,” by **Margaret M. Peel**, *Australian Mammalogy* 42:3 (2020), 223-223.

“Corrigendum to: Using Global Navigation Satellite System Data for Real-time Moisture Analysis and Forecasting over the Australian Region I. The System,” by **John Le Marshall, Robert Norman, David Howard, Susan Rennie, Michael Moore, Jan Kaplon, Yi Xiao, Kefei Zhang, Carl Wang, Ara Cate, Paul Lehmann, Xiaoming Wang, Peter Steinle, Chris Tingwell, Tan Le, Witold Rohm, and Diandong Ren**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 394-394.

“COVID-19 and Fiji: A Case Study,” by **Mohseen Riaz Ud Dean**, *Oceania* 90:S1 (2020), 96-106.

“COVID-19 and Food Security in Fiji: The Reinforcement of Subsistence Farming Practices in Rural and Urban Areas,” by **Gregoire Randin**, *Oceania* 90:S1 (2020), 89-95.

“COVID-19 and Re-Storying Economic Development in Oceania,” by **Tarcisius Kabutaulaka**, *Oceania* 90:S1 (2020), 47-52.

“COVID-19 and the Marshalllese,” by **Ola Gunhildrud Berta, Elise Berman, and Albious Latior**, *Oceania* 90:S1 (2020), 53-59.

“The Crows Steal our Easter Eggs,” by **Eve Vincent**, *Oceania* 90:S1 (2020), 30-33.

“Cryptic Diversity of the Spotted Scat *Scatophagus argus* (Perciformes: Scatophagidae) in the South China Sea: Pre- or Post-production Isolation,” by **Yun-Rong Yan, Kui-Ching Hsu, Mu-Rong Yi, Bo Li, Wei-Kuang Wang, Bin Kang, and Hung-Du Lin**, *Marine and Freshwater Research* 71:12 (2020), 1640-1650.

“CSIR and Australian Industry: 1926-49,” by **Garrett Upstill, Thomas H. Spurling, and Terence J. Healy**, *Historical Records of Australian Science* 32:1 (2020), 52-66.

“CSL, from Blood Stock to Blue Chip,” by **Ian D. Gust**, *Australian Mammalogy* 42:3 (2020), 183-186.

“Darwin’s Vertical Thinking: Mountains, Mobility, and the Imagination in 19th-century Geology,” by **Michael S. Reidy**, *Centaurus* 62:4 (2020), 631-646.

“David Mellor at the California Institute of Technology, 1937-8, the Beginnings of Australian Magnetochemistry,” by **Anthony T. Baker**, *Historical Records of Australian Science* 32:1 (2020), 29-40.

“Data-rich Description of a New Genus of Praying Mantid Egg Parasitoids, *Lasallegrion* gen. n. (Hymenoptera: Torymidae: Podagrionini), with a Re-examination of *Podagrion* species of Australia and New Caledonia,” by **Petr Janšta, Gérard Delvare, Hannes Baur, Benjamin Wipfler, and Ralph S. Peters**, *Journal of Natural History* 54:9-12 (2020), 755-790.

“Deformation Structures in a Large Slump Horizon, Paleoproterozoic Vempalle Formation, Cuddapah Basin, Southern India,” by **Sayani Khan, Tuasha Majumder, Sarbani Patranabis-Deb, and Dilip Saha**, *The Journal of Geology* (2020), available online at <<https://doi.org/10.1086/712290>>.

“A Demographic Study of the Water-Rat (*Hydromys chrysogaster*) on the River Torrens in Adelaide, South Australia,” by **C.M. Leigh and W.G. Breed**, *Australian Mammalogy* 42:3 (2020), 277-282.

“Detectability and Activity Patterns of Sambar Deer (*Rusa unicolor*) in Baw Baw National Park, Victoria,” by **Christopher Davies, Wendy Wright, Fiona E. Hogan, and Hugh Davies**, *Australian Mammalogy* 42:3 (2020), 312-320.

“Description of Spawning of the Pouched Lamprey (*Geotria australis*) in Tanks and of Morphological Changes Leading up to and Following Spawning,” by **K.R. Paton, M.H. Cake, D.J. Bird, and I.C. Potter**, *Pacific Conservation Biology* 26:3 (2019), 301-307.

“A Description of Biosecurity Practices Among Selected Dairy Farmers Across Australia,” by **J.W. Aleri and M. Laurence**, *Animal Production Science* 60:14 (2020), 1711-1720.

“Description of the Preimaginal Stages of the Golden Native Dronefly from Australia, *Eristalinus punctulatus* (Macquart, 1847) (Diptera: Syrphidae),” by **Andrew Campoy, Celeste Perez-Banon, Daniel Aznar, and Santos Rojo**, *Austral Entomology* 59:4 (2020), 784-793.

“Description of Two New *Quadrastichus* (Hymenoptera: Eulophidae) Reared from *Litchiomyia chinensis* (Diptera: Cecidomyiidae) on Commercial Lychee (*Litchi chinensis*; Sapindaceae) in Taiwan,” by **Michael W. Gates, Yi-Min Chao, Sheng-Feng Lin, and Man-Miao Yang**, *Journal of Natural History* 54:9-12 (2020), 635-646.

“Determining the Position of *Diomocoris*, *Micromimetes* and *Taylorilygus* in the *Lygus*-complex based on molecular data and first records of *Diomocoris* and *Micromimetes* from Australia, including Four New Species (Insecta : Hemiptera : Miridae : Mirinae),” by **Anna A. Namyatova, Michael D. Schwartz, and**

Gerasimos Cassis, *Invertebrate Systematics* 35:1 (2021), 90-131.

“Developing Guidelines for the Use of Traps to Capture Koalas,” by **Kita R. Ashman** and **Desley A. Whisson**, *Australian Mammalogy* 42:3 (2020), 380-384.

“The Development of an Improved Scat Survey Method for Koalas (*Phascoloractos cinereus*),” by **Alex Jiang**, **Andrew Tribe**, and **Peter Murray**, *Australian Journal of Zoology* 67:3 (2020), 125-133.

“Dialogue Across Borders: Angela Su’s Chimeric Antibodies,” by **Angela Su** and **Harry Yi-Jui Wu**, *East Asian Science, Technology and Society* 14:4 (2020), 667-670.

“Dietary Ecology of Common Amphibian Species in a Seasonal Location in Northern Sri Lanka,” by **R.B. Loshitha R. Sarathchandra**, **Kanishka D.B. Ukuwela**, and **Rajnish P.G. Vandercone**, *Journal of Natural History* 54:27-28 (2020), 1797-1812.

“Dietary Overlap Between Cattle and Chital in the Queensland Dry Tropics,” by **Kurt Watter**, **Greg S. Baxter**, **Anthony Pople**, and **Peter J. Murray**, *The Rangeland Journal* 42:3 (2020), 221-225.

“Dietary Partitioning in Newly Sympatric Urban Flying-Foxes (*Pteropus poliocephalus* and *Pteropus alecto*),” by **Phoebe Griffith**, **Kerryn Parry-Jones**, and **Andrew A. Cunningham**, *Australian Mammalogy* 42:3 (2020), 361-366.

“Dispersal Potential in Two Restricted and Five Wide-ranging *Senecio* (Asteraceae) Taxa from Central Eastern New South Wales, Australia,” by **Lily N.N. Mickaill**, **Stephen A.J. Bell**, and **Chad T. Beranek**, *Australian Journal of Botany* 68:5 (2020), 333-344.

“Dispersion of Long-nosed Fur Seals (*Arctocephalus forsteri*) Determined by Tagging,” by **Peter D. Shaughnessy** and **Simon D. Goldsworthy**, *Australian Journal of Zoology* 67:3 (2020), 173-179.

“Disputing the Territory: The Payne-Fletcher Report of 1937,” by **Russell McGregor**, *Australian Historical Studies* 51:4 (2020), 383-400.

“Distribution, Abundance and Threats to Bare-Nosed Wombats (*Vombatus ursinus*),” by **Rowan K. Thorley** and **Julie M. Old**, *Australian Mammalogy* 42:3 (2020), 249-256.

“Diversity and Population Genetic Structure of *Octopus hubbsorum* in the Mexican Pacific Inferred from Mitochondrial DNA Sequences,” by **José de Jesús Dueñas-Romero**, **Jasmín Granados-Amores**, **Deivis Samuel Palacios-Salgado**, **José Francisco Domínguez-Contreras**, **Juan Ramón Flores-Ortega**, and **Francisco Javier García-Rodríguez**, *Marine and Freshwater Research* 72:1(2020), 35-43.

“Drivers of Zooplankton Dynamics in a Small Tropical Lowland River,” by **Paul C. Godfrey**, **Richard G. Pearson**, **Bradley J. Pusey**, and **Angela H. Arthington**, *Marine and Freshwater Research* 72:2 (2020), 173-185.

“E tumau le fa‘avae ae fesuia‘i faiga: Pasifika Resilience During COVID-19,” by **Dione Enari** and **Aiono Manu Fa‘aea**, *Oceania* 90:S1 (2020), 75-80.

“Echolocation and Foraging Ecology of the Bristle-Faced Free-Tailed Bat, *Setirostris eleryi*, in Central Australia,” by **N.L. McKenna**, **R.D. Bullen**, and

M. Pennay, *Australian Mammalogy* 42:3 (2020), 302-311.

“Ecological Aspects of the Endemic Tree Frog *Olygon kautskyi* (Anura: Hylidae) in an Atlantic Forest Area of Southeastern Brazil,” by **Juliane Pereira-Ribeiro**, **Thais Meirelles Linause**, **Atila Colombo Ferregueti**, **Jonathan Silva Cozer**, **Helena Godoy Bergallo**, and **Carlos Frederico Duarte Rocha**, *Journal of Natural History* 54:23-24 (2020), 1499-1511.

“Ecological Improvement by restoration on the Jialu River: Water Quality, Species Richness and Distribution,” by **Xianningshi Kong**, **Kai Tian**, **Yanyan Jia**, **Zaihua He**, **Siyuan Song**, **Xingbing He**, **Changguo Xiang**, **Shuqing An**, and **Xingjun Tian**, *Marine and Freshwater Research* 71:12 (2020), 1602-1615.

“Economic Vulnerabilities and Livelihoods: Impact of COVID-19 in Fiji and Vanuatu,” by **Rukmani Gounder**, *Oceania* 90:S1 (2020), 107-113.

“Ecosystem Threats and Management Strategies for Wetlands in China,” by **Nasreen Jeelani**, **Wen Yang**, **Lu Xia**, **Hai Liang Zhu**, and **Shuqing An**, *Marine and Freshwater Research* 71:12 (2020), 1557-1563.

“Effects of Dietary Shifts on the Stable Isotope Signature of Pacific White Shrimp *Litopenaeus vannamei* and Implications for Traceability,” by **Li Li**, **Natalee Kokkuar**, **Cui Han**, **Wenjing Ren**, and **Shuanglin Dong**, *Marine and Freshwater Research* 71:10 (2020), 1294-1300.

“Effects of Unregulated Visitor Access on Chick Fledgling Mass and Survival in Yellow-Eyed Penguins,” by **Gemma Bell**, **Melanie J. Young**, **Philip J. Seddon**, and **Yolanda van Heezik**, *Wildlife Research* 47:6 (2020), 468-475.

“Empowering Australian Insecticide Resistance Research with Genetic Information: The Road Ahead,” by **Joshua A. Thia**, **Ary A. Hoffmann**, and **Paul A. Umina**, *Austral Entomology* (Dec 2020), available online at <<https://doi.org/10.1111/aen.12512>>.

“The Endemic New Guinean Genus *Murexia* (Dasyuromorphia: Dasyuridae). How Many Species? An Analysis Based on Morphological, Distributional and Molecular Data,” by **Patricia A. Woolley**, **Carey Krajewski**, and **Michael Westerman**, *Australian Journal of Zoology* 67:3 (2020), 134-144.

“Environmental Justice, Indigenous Knowledge Systems, and Native Hawaiians and Other Pacific Islanders,” by **Michael S. Spencer**, **Taurini Fentress**, **Ammara Touch**, and **Jessica Hernandez**, *Human Biology* 92:1 (2020), 45-57.

“Ephemeral Effects of El Niño – Southern Oscillation Events on an Eastern Tropical Pacific Coral Community,” by **R. Cruz García**, **A.P. Rodríguez-Troncoso**, **F.A. Rodríguez-Zaragoza**, **A. Mayfield**, and **A.L. Cupul-Magña**, *Marine and Freshwater Research* 71:10 (2020), 1259-1268.

“Epidemic Poliomyelitis, Post-poliomyelitis Sequelae and the Eradication Program,” by **Margaret M. Peel**, *Australian Mammalogy* 42:3 (2020), 196-200.

“Evaluating the Management of a Tropical Reservoir: Implications of Climate Change for Water Availability,” by **Ayron M. Strauch**, *Pacific Science* 74:2 (2020), 115-135.

“Evaluating the Use of Thermal Imaging Cameras to Monitor the Endangered Greater Bilby at Astrebla Downs, National Park,” by **John Augusteyn**, **Anthony**

Pople, and Maree Rich, *Australian Mammalogy* 42:3 (2020), 329-340.

“Evaluation of CMIP6 AMIP Climate Simulations with the ACCESS-AM2 Model,” by **R.W. Bodman, D.J. Karoly, M.R. Dix, I.N. Harman, J. Srbinovsky, P.B. Dobrohotoff, and C. Mackallah**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 166-179.

“Evolutionary Biogeography of Australian Jumping Spider Genera (Araneae: Salticidae),” by **Barry J. Richardson**, *Australian Journal of Zoology* 67:3 (2020), 162-172.

“Experimental Assimilation of Synthetic Bogus Tropical Cyclone Pressure Observations into a High-resolution Rapid-update NWP Model,” by **Susan Rennie and Jim Fraser**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 215-224.

“The Extent, Significance and Amelioration of Subsurface Acidity in Southern New South Wales, Australia,” by **Jason Condon, Helen Burns, and Guangdi Li**, *Soil Research* 59:1 (2020), 1-11.

“Extensive Coral Reef Decline in Nha Trang Bay, Vietnam: *Acanthaster planci* Outbreak: The Final Event in a Sequence of Chronic Disturbances,” by **Konstantin S. Tkachenko, Nguyen H. Huan, Nguyen H. Thanh, and Temir A. Britayev**, *Marine and Freshwater Research* 72:2 (2020), 186-199.

“Extraordinary Sequence of Severe Weather Events in the Late-nineteenth Century,” by **Jeff Callaghan**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 252-279.

“Filling Gaps in the Biology and Habitat Use of Two Spurdog Sharks (*Squalus japonicus* and *Squalus brevirostris*) in the East China Sea,” by **Toshikazu Yano, Seiji Ohshimo, Takeshi Sakai, and Mari Yoda**, *Marine and Freshwater Research* 71:12 (2020), 1719-1731.

“A Compendium of Ecological Knowledge for Restoration of Freshwater Fishes in Australia’s Murray-Darling Basin,” by **John D. Koehn, Scott M. Raymond, Ivor Stuart, Charles R. Todd, Stephen R. Balcombe, Brenton P. Zampatti, Heleena Bamford, Brett A. Ingram, Christopher M. Bice, Kate Burndred, Gavin Butler, Lee Baumgartner, Pam Clunie, Iain Ellis, Jamin P. Forbes, Michael Hutchison, Wayne M. Koster, Mark Lintermans, Jarod P. Lyon, Martin Mallen-Cooper, Matthew McLellan, Luke Pearce, Jordi Ryall, Clayton Sharpe, Daniel J. Stoessel, Jason D. Thiem, Zeb Tonkin, Anthony Townsend, and Qifeng Ye**, *Marine and Freshwater Research* 71:11 (2020), 1391-1463.

“Fire, Plant Species Richness and Plants of Significance to Australian Desert Aboriginal People,” by **Neil Burrows, Paul Rampant, Graham Loewenthal, and Allan Wills**, *International Journal of Wildland Fire* 29:10, (2020), 939-942.

“First Example of Hybridisation Between Two Australian Figs (Moraceae),” by **Brendan C. Wilde, Susan Rutherford, Marlien van de Merwe, Megan L. Murray, and Maurizio Rossetto**, *Australian Systematic Botany* 33:5 (2020), 436-445.

“First Description of the Nest, Eggs, and Nestlings of the White-tufted Sunbeam (*Aglaeactis castelnaudii*) and Incubation Behaviours of Shining Sunbeam

(*A. cupripennis*) in the Southeast of Peru,” by **David Ocampo**, **Rachel E. Hanauer**, **Harold F. Greeney**, and **Gustavo A. Londoño**, *Journal of Natural History* 54:23-24 (2020), 1455-1463.

“First Peoples of the Atomic Age: Finding New Kinds of Data in the Biobanks of the Radiation Effects Research Foundation,” by **M. Susan Lindee**, *Historical Studies in the Natural Sciences* 50:5 (2020), 554-577.

“First Phylogenetic Assessment and Taxonomic Synopsis of the Open-holed Trapdoor Spider Genus *Namea* (Mygalomorphae: Anamidae): A Highly Diverse Mygalomorph lineage from Australia’s Tropical Eastern Rainforests,” by **Michael G. Rix**, **Jeremy D. Wilson**, and **Mark S. Harvey**, *Invertebrate Systematics* 34:7 (2020), 679-726.

“First Record of the genus *Paradiestrammena* Chopard, 1919 from China, with Description of Two New Species (Orthoptera: Rhaphidophoridae: Aemodogrylinae),” by **Qi-Di Zhu**, **Li-Min Lu**, and **Fu-Ming Shi**, *Journal of Natural History* 54:19-20, (2020), 1271-1278.

“Of Fission and Fallout: New Zealand in the Nuclear Age,” by **Andrew C. McEwan**, *Journal of the Royal Society of New Zealand* (Dec 2020), available online at <<https://doi.org/10.1080/03036758.2020.1851731>>.

“Floral Variation across Three Varieties of the Landscape-Dominant Tree *Metrosideros polymorpha* (Myrtaceae): Insights from a Hawai’i Island Common Garden,” by **Elizabeth A. Stacy** and **Melissa A. Johnson**, *International Journal of Plant Sciences* 182:1 (2021), 46-58.

“Food Security in COVID-19: Insights from Indigenous Fijian Communities,” by **Illsoni Leweniqila** and **Suiliasi Vunibola**, *Oceania* 90:S1 (2020), 81-88.

“Fossil Fruits and Seeds of Zingiberales from the Late Cretaceous–Early Cenozoic Deccan Intertrappean Beds of India,” by **Selena Y. Smith**, **Dashrath K. Kapgate**, **Shannon Robinson**, **Rashmi Srivastava**, **John C. Benedict**, and **Steven R. Manchester**, *International Journal of Plant Sciences* 182:2 (2021), 91-108.

“Fragmentation and Percolation Thresholds in the Degradation Process of Alpine Meadow in the Three-River Headwaters Region of Qinghai-Tibetan Plateau, China,” by **Huilong Lin** and **Feng Zhang**, *The Rangeland Journal* 42:3 (2020), 171-177.

“From Racial Types to Aboriginal Clines: The Illustrative Career of Joseph B. Birdsall,” by **Warwick Anderson**, *Historical Studies in the Natural Sciences* 50:5 (2020), 498-524.

“From SARS to COVID-19: Rethinking Global Health Lessons from Taiwan,” by **Wayne Soon**, *East Asian Science, Technology and Society* 14:4 (2020), 647-655.

“From the Bubble to the Hearth: Social Co-Presence in the Era of COVID-19 in Asmat, Indonesian Papua,” by **Tom Powell Davies**, *Oceania* 90:S1 (2020), 14-20.

“Gastrointestinal Helminths from Three Species of Frogs, *Meristogenys orphonocnemis*, *M. poecilus*, and *M. whiteheadi* (Anura: Ranidae) from Borneo, Malaysia,” by **Stephen R. Goldberg** and **Charles R. Bursey**, *Pacific Science* 74:2 (2020), 171-174.

“Genetic Viability of a Reintroduced Population of South-western Common

Brushtail Possum (*Trichosurus vulpecula hypoleucus*), Western Australia,” by **Lara Semple, Kym Ottewell, Colleen Sims, Henner Simianer, and Margaret Byrne**, *Pacific Conservation Biology* 26:3 (2020), 282-292.

“Genomic Analyses Suggest Strong Population Connectivity over Large Spatial Scales of the Commercially Important Baitworm, *Australonuphis teres* (Onuphidae),” by **Amanda Padovan, Rowan C. Chick, Victoria J. Cole, Ludovic Dutoit, Patricia A. Hutchings, Cameron Jack, and Ceridwen I. Fraser**, *Marine and Freshwater Research* 71:11 (2020), 1549-1556.

“Genomic Data Show Little Geographical Structure Across the Naturally Fragmented Range of the Purple-gaped Honeyeater,” by **Leo Joseph, Catriona D. Campbell, Lynn Pedler, and Alex Drew**, *Australian Journal of Zoology* 67:4 (2020), 226-230.

“Giant Trevally (*Caranx ignobilis*) of Hawaiian Islands Can Live 25 Years,” by **Allen H. Andrews**, *Marine and Freshwater Research* 71:10 (2020), 1367-1372.

“Gonorrhea: Past, Present and Future,” by **Evgeny A. Semchenko, Xiaofan Chen, Caroline Thng, Maree O’Sullivan and Kate L. Seib**, *Australian Mammalogy* 42:3 (2020), 205-209.

“Grasshopper Country Before and After: A Resurvey of Ken Key’s collecting expeditions in New South Wales, Australia, 70 Years on,” by **Michael R. Kearney, Md Anwar Hossain, Steve J. Sinclair, and Hojun Song**, *Austral Entomology* 60:1 (2021), 52-65.

“The Great Mask Debate – To Wear or Not to Wear?” by **Gregory Waula Bablis**, *Oceania* 90:S1 (2020), 25-29.

“A Happy Family: Systematic Revision of the Endemic *Theridion* Spiders (Araneae, Theridiidae) of the Hawaiian Islands,” by **Adrià Bellvert, Rosemary G. Gillespie, and Miquel A. Arnedo**, *Invertebrate Systematics* 35:1 (2021), 1-58.

“The Heterobranch Sea Slugs of Lord Howe Island, NSW, Australia (Mollusca: Gastropoda),” by **Matt J. Nimbs, Ian Hutton, Tom R. Davis, Meryl F. Larkin, and Stephen D.A. Smith**, *Proceedings of the Royal Society of Victoria* 132:1 (Feb. 2020).

“High Prevalence of Non-native Fish Species in a Remote Region of the Mamberamo River, Indonesia,” by **A. Wibowo, Dwi Atminarso, L.J. Baumgartner, and Anti Vasemagi**, *Pacific Conservation Biology* 26:3 (2019), 293-300.

“A History of Human Quarantine in Australia: Settlement to 1980,” by **Diane Lightfoot**, *Australian Mammalogy* 42:3 (2020), 175-177.

“Honey Bees (Hymenoptera: Apidae) Outnumber Native Bees in Tasmanian Apple Orchards: Perspectives for Balancing Crop Production and Native Bee Conservation,” by **Kit S. Prendergast, Nicolas Leclercq, and Nicolas J. Vereecken**, *Austral Entomology* (2021), available online at <<https://onlinelibrary.wiley.com>>.

“How Many Feral Pigs in Australia? An Update,” by **Jim Hone**, *Australian Journal of Zoology* 67:4 (2020), 215-220.

“How Policy Marginalizes Diversity: Politics of Knowledge in India’s Biodiesel Promotion,” by **Evelien de Hoop and Saurabh Arora**, *Science as Culture*

(2020), available online at <<https://www.tandfonline.com>>.

“Immature Individuals Dominate Elasmobranch Fisheries of the Bali Strait,” by **Sara Tabea Winter, Fahmi, Didik Rudianto, Betty J.L. Laglbauer, Isabel Ender, and Colin A. Simpfendorfer**, *Marine and Freshwater Research* 71:11 (2020), 1488-1500.

“Impact of Braconid Wasps on Larval Performance of Longhorned Borer *Coptocercus rubripes* Boisduval (Coleoptera: Cerambycidae) in *Eucalyptus* Forest of Southwestern Australia,” by **Stephen A. Seaton and Giles E. St.J. Hardy**, *Austral Entomology* 59:4 (2020), 819-828.

“Impact of COVID-19 on Health Research in New Zealand: A Case Study of a Research-intensive Campus,” by **Lisa K. Stamp, Vicky A. Cameron, Tim B.F. Woodfield, Logan Walker, Margaret Currie, Evie Templeton, Anna P. Pilbrow, Kosta Tabakakis, Elisabeth Phillips, and Khoon S. Lim**, *Journal of the Royal Society of New Zealand* (2021), available online at <<https://doi.org/10.1080/03036758.2020.1867202>>.

“In the Shadow,” by **Jackie Faasisila**, *Oceania* 90:S1 (2020), 126-127.

“Increased House Mouse (*Mus musculus*) Abundance in Wetlands in Response to *Typha* sp. Flowering: Implications for Understanding Wetland Occupancy Patterns of the Eastern Grass Owl (*Tyto longimembris*),” by **Chad T. Beranek**, *Australian Journal of Zoology* 67:4 (2020), 210-214.

“The Infestation and Habitat of the Ambrosia Beetle *Euwallacea interjectus* (Coleoptera: Curculionidae: Scolytinae) in the Riparian Zone of Shanghai, China,” by **Zhangxun Wang, You Li, A. Simon Ernstsons, Ronghua Sun, Jiri Hulcr, and Lei Gao**, *Agricultural and Forest Entomology* 23:1 (2021), 104-109.

“Integrated Social Protection and COVID-19: Rethinking Pacific Community Responses in Aotearoa,” by **Steven Ratuva, Yvonne Crichton-Hill, Tara Ross, Arindam Basu, Patrick Vakaoti, and Rosemarie Martin-Neuninger**, *Journal of the Royal Society of New Zealand* (2021), available online at <<https://doi.org/10.1080/03036758.2020.1861033>>.

“Integrating DNA Sequences with Morphological Analysis Clarifies Phylogenetic Position of *Salvia Grandifolia* (Lamiaceae): An Enigmatic Species Endemic to Southwestern China,” by **Guo-Xiong Hu, En-De Liu, Zhi-Kun Wu, Kenneth J. Sytsma, Bryan T. Drew, and Chun-Lei Xiang**, *International Journal of Plant Sciences* 181:8 (2020), 787-799.

“Integrating Traditional Knowledge, Science and Conservation in the Search for Undescribed Mammals on Malaita, Solomon Islands,” by **Tyrone H. Lavery, Masaafi Alabai, Tommy Esau, Simon Fuiberi, Di’ifaka Furina, Rebecca N. Johnson, Esau Kekeubata, David MacLaren, Jackson Waneagea, and Tim F. Flannery**, *Pacific Conservation Biology* 26:4 (2020), 404-411.

“Intensive and Extensive Movements of Feral Camels in Central Australia,” by **Cameron Ryan Wells and Mark Lethbridge**, *The Rangeland Journal* 42:3 (2020), 195-210.

“Interchange of Humpback Whales (*Megaptera novaeangliae*) between Northern Philippines and Ogasawara, Japan, has Implications for Conservation,” by **Shotaro Nakagun, Laetitia I. Smoll, Takayuki Sato, Cynthia A.A. Layusa, and**

Jo Marie V. Acebes, *Pacific Conservation Biology* 26:4 (2020), 378-383.

“Invertebrate Communities, Sediment Parameters and Food Availability of Intertidal Soft-sediment Ecosystems on the North Coast of British Columbia, Canada,” by **Lily Campbell**, **Sarah E. Dudas**, **Francis Juanes**, **Alyssa M. Allen Gerwing**, and **Travis G. Gerwing**, *Journal of Natural History* 54:15-16 (2020), 919-945.

“Invulnerable Facts: Infant Mortality and Development in Nationalist Gansu,” by **Joshua A. Hubbard**, *East Asian Science, Technology and Society* 14:4 (2020), 623-645.

“Lessons from History,” by **Cheryl Power** and **Ross Barnard**, *Australian Mammalogy* 42:3 (2020), 167-167.

“Living and Dying on the Edge of the Empire: A Bioarchaeological Examination of Otago’s Early European Settlers,” by **Hallie Ruth Buckley**, **Phillip Roberts**, **Rebecca Kinaston**, **Peter Petchey**, **Charlotte King**, **Kate Domett**, **Anne Marie Snoddy**, and **Elizabeth Matisoo-Smith**, *Journal of the Royal Society of New Zealand* 50 (2020), available online at <<https://doi.org/10.1080/03036758.2020.1837189>>.

“Local Food and Transnational Science: New Boundary Issues of the Caterpillar Fungus in Republican China,” by **Di Lu**, *Osiris* 35 Food Matters (2020), 249-267.

“Cryptically Galled Infructescence: A New Sheoak Gall Type in *Allocasuarina luehmannii* and *Casuarina pauper* (Casuarinaceae),” by **Ian T. Riley**, *Australian Journal of Botany* 68:5 (2020), 369-375.

“Long Term Impacts of *Phytophthora cinnamomic* Infestation on Healthy Woodland in the Great Otway National Park in South-eastern Australia,” by **B.A. Wilson**, **K. Annett**, **W.S. Laidlaw**, **D.M. Cahill**, **M.J. Garkaklis**, and **L. Zhuang-Griffin**, *Australian Journal of Botany* 68:8 (2020), 542-556.

“Lost at Sea: Determining Geographic Origins of Illegally Traded Green Sea Turtles (*Chelonia mydas*) rescued on Hainan Island, China,” by **Daniel Gaillard**, **Frederick C. Yeh**, **Liu Lin**, **Huai-Qing Chen**, **Ting Zhang**, **Shu-Jin Luo**, and **Hai-Tao Shi**, *Wildlife Research* 48:1 (2020), 53-63.

“Loving during COVID-19,” by **Ramona Boodoosingh**, *Oceania* 90:S1 (2020), 114-115.

“Low Trunk Epiphytic Fern Gametophyte and Sporophyte Occurrence is Influenced by Moss Height and Density in a Costa Rican Lowland Tropical Rainforest,” by **Aidan D. Harrington** and **Jacob L. Watts**, *International Journal of Plant Sciences* (2021), available online at <<https://www.journals.uchicago.edu>>.

“Macquarie-Yaegi Partnership: Community Capability Strengthening Through Western and Indigenous Science,” by **Joanne F. Jamie**, *Australian Journal of Chemistry* 74:1 (2020), 28-33.

“Madang Art Maniacs,” by **Robert Banasi** and **Edward P. Wolfers**, *Oceania* 90:S1 (2020), 21-24.

“Making the Globe: A Cultural History of Science in the Bay of Bengai,” by **Sujit Sivasundaram**, *Cultural History* 9:2 (2020), 217-240.

“Male-Biased Sex Ratio of Adult-Sized Loggerhead Turtles (*Caretta caretta*)

Migrating to High-Latitude Summer-Restricted Foraging Grounds in the Northwest Pacific,” by **Shohei Kobayashi, Takuya Fukuoka, Chihiro Kinoshita, Katsufumi Sato, Katsuhiko Arai, and Gen Watanabe**, *Pacific Science* 74:2 (2020), 147-158.

“Maternal Care of Platypus Nestlings (*Ornithorhynchus anatinus*),” by **Jessica L. Thomas, Marissa L. Parrott, Kathrine A. Handasyde, and Peter Temple Smith**, *Australian Mammalogy* 42:3 (2020), 283-292.

“Measles and Scarlet Fever Epidemic Synergy and Evolving Pathogenic Virulence in Victoria, Australia, 1853-1916,” by **Phillip M. Roberts and Heather T. Battles**, *Social Science History* 45:1 (2021), 187-217.

“A Molecular Phylogeny of *Eragrostis* (Poaceae: Chloridoideae: Eragrostidaeae): Making Lovegrass Monophyletic in Australia,” by **Russell L. Barrett, Paul M. Peterson, and Konstantin Romaschenko**, *Australian Systematic Botany* 33:5 (2020), 458-476.

“The More The Merrier: Unparalleled Sympatric Species Richness in a Sea Spider Genus (Pycnogonida: Callipallenidae: *Pallenella*) from Tasmanian Waters,” by **Georg Brenneis, Claudia P. Arango, Prashant P. Sharma, and Martin Schwentner**, *Invertebrate Systematics* 34:8 (2020), 837-870.

“Morphological and Molecular Characterisation of *Merlinius brevidens* (Allen, 1955) Siddiqi, 1970 (Nematoda: Rhabditida: Merlinidae) from India,” by **Lovely Bharti, Aashaq Hussain Bhat, Ashok Kumar Chaubey, and Joaquín Abolafia**, *Journal of Natural History* 54:23-24 (2020), 1477-1498.

“Movement Patterns of Whale Sharks in Cenderawasih Bay, Indonesia, Revealed through Long-term Satellite Tagging,” by **Megan M. Meyers, Malcolm P. Francis, Mark Erdmann, Rochelle Constantine, and Abraham Sianipar**, *Pacific Conservation Biology* 26:4 (2020), 353-364.

“A Narrative to Support the Future of the Australian Outback,” by **B.J. Traill and Mark Stafford Smith**, *The Rangeland Journal* 42:5 (2020), 243-246.

“New Genus and Species of Whitefly, *Margaritaplena ovata* gen. et sp. nov. (Hemiptera: Aleyrodidae) from the Andaman Islands, India,” by **Anil Kumar Dubey**, *Journal of Natural History* 54:23-24 (2020), 1465-1475.

“New Species and Records of the Subterranean Amphipod Genus *Pseudocrangonyx* Akatsuka and Komai (Crustacea: Pseudocrangonyctidae), Representing the Northernmost Distribution of the Group,” by **Dmitry Sidorov, Vjacheslav Labay, and Andrey Gontcharov**, *Journal of Natural History* 54:27-28 (2020), 1759-1795.

“A New Species of *Paramoera* (Crustacea: Amphipoda: Pontogeneiidae) from an Estuary Habitat in Hokkaido, Japan,” by **Kumiko Hagihara, Takafumi Nakano, and Ko Tomikawa**, *Journal of Natural History* 54:19-20, (2020), 1279-1292.

“New Zealand Research and International Perspectives on the Pandemic,” by **Alex Romain**, *Journal of Primary Health Care* 12:3 (2020) 191-192.

“*Notointybia* gen. nov., A New Genus of the Australian Soft-winged Flower Beetles (Coleoptera: Melyridae),” by **Zhenhua Liu, Adam Slipinski, and Hong Pang**, *Austral Entomology* 59:3 (2020), 524-534.

“Notes on Types of Australian *Chartocerus* Motschulsky (Hymenoptera: Signiphoridae),” by **Ana Dal Molin** and **James B. Woolley**, *Journal of Natural History* 54:9-12 (2020), 681-702.

“A New 40Ar/39Ar Analysis Method of Volcanoclastic Strata to Determine Eruption Periods – Example of Xintaimen, China,” by **Xin Zhou**, **Jianqing Ji**, **Jing Zhou**, **Yining Zhang**, **Yungchen Lhamo**, **Wuxun Quan**, and **Jiyao Tu**, *The Journal of Geology* (2020), available online at <<https://www.journals.uchicago.edu>>.

“A New Species of Miniaturised Narrow-mouth Frog of the Genus *Microhyla* Tschudi, 1838 (Amphibia: Anura: Microhylidae) from Northern Tenasserim, Thailand,” by **Nikolay A. Poyarkov**, **Parinya Pawangkhanant**, **Vladislav A. Gorin**, **Watinee Juthong**, and **Chatmongkon Suwannapoom**, *Journal of Natural History* 54:23-24 (2020), 1525-1558.

“A New Species of the Enigmatic Australian Endemic Family Trachypetidae (Hymenoptera: Ichneumonidea): *Cercobarcon lasallei* sp. n.,” by **Andrew D. Austin** and **Erinn P. Fagan-Jeffries**, *Journal of Natural History* 54:9-12 (2020), 553-563.

“Not Yet Extinct: *Rhynchobatus cooki* is Found After Being Unseen for Over 20 Years,” by **Naomi Clark-Shen**, **Byrappa Venkatesh**, **Christina Choy Pei Pei**, **Kathy Xu**, and **Gavin J.P. Naylor**, *Pacific Conservation Biology* 26:3 (2020), 308-309.

“Occupancy Modelling Reveals a Highly Restricted and Fragmented Distribution in a Threatened Montane Frog (*Philoria kundagungan*) in Subtropical Australian Rainforests,” by **Liam J. Bolitho**, **Jodi J.L. Rowley**, **Harry B. Hines**, and **David Newell**, *Australian Journal of Zoology* 67:4 (2021), 231-240.

“Of Monsters and Mothers: Affective Climates and Human-Nonhuman Sociality in Kathy Jetñl-Kijiner’s ‘Dear Matafele Peinam’,” by **Angela L. Robinson**, *The Contemporary Pacific* 32:2 (2020), 311-339.

“On the Recent Hiatus of Tropical Cyclones Landfalling in NSW, Australia,” by **J.L. Gray**, **D.C. Verdon-Kidd**, **J. Callaghan**, and **N.B. English**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 180-192.

“On the Remarkable Nesting Biology of an Australian Bee in the Genus *Trichocolletes* Cockerell (Hymenoptera: Colletidae),” by **Terry F. Houston**, *Austral Entomology* 59:3 (2020), 593-601.

“*Opaluma* Lessard & Woodley, gen. nov: A New Genus of Iridescent Soldier Flies (Diptera: Stratiomyidae) from Australia, Including Seven New Species,” by **Bryan D. Lessard**, **David K. Yeates**, and **Norman E. Woodley**, *Austral Entomology* 59:3 (2020), 467-486.

“Optimising Grazing for Livestock Production and Environmental Benefits in Chinese Grasslands,” by **Warwick B. Badgery**, **David Kemp**, **Zhang Yingjun**, **Wang Zhongwu**, **Han Guodong**, **Hou Fujiang**, **Liu Nan**, **David Michalk**, and **Karl Behrendt**, *The Rangeland Journal* 42:5 (2020), 347-358.

“Pacific Biologies: How Humans Become Genetic,” by **Warwick Anderson** and **M. Susan Lindee**, *Historical Studies in the Natural Sciences* 50:5 (2020), 483-497.

“Pasteur, Rabbits and Cumberland Disease,” by **Pat J. Blackall**, *Australian*

Mammalogy 42:3 (2020), 201-204.

"Patterns of Invertebrate Emergence and Succession in Flooded Wetlands Mesocosms," by **I. Gowns, S. Lewis, D. Ryder, W. Tsoi, and B. Vincent**, *Marine and Freshwater Research* 71:10 (2020), 1373-1377.

"The Patterned Guidelines of Shazhou (*Shazhou tujing*) and Geographical Practices in Tang China," by **Alexis Lycas**, *Centaurus* 62:3 (2020), 479-497.

"Persistent Spatial Gaps in Ornithological Study in Australia, 1901–2011," by **Michael A. Weston, Maree R. Yarwood, Desley A. Whisson, and Matthew R.E. Symonds**, *Archives of Natural History* 46:1 (2020), 264-271.

"Petrogenesis of the Taishanmiao A-type Granite in the Eastern Qinling Orogenic Belt: Implications for late Cretaceous Tectonic Transition and Mineralization," by **Jun He, Yue Qi, Xin Fan, and Fukun Chen**, *The Journal of Geology* (2021), available online at <<https://www.journals.uchicago.edu>>.

"Phantom Menace: Dengue and Yellow Fever in Asia," by **Maurits Bastiaan Meerwijk**, *Bulletin of the History of Medicine* 94:2 (2020), 215-243.

"Phenology of a Bee (Hymenoptera: Apoidea) Community Over a 10 Year Period in South-eastern Australia," by **Michael J. Neave, Julian Brown, Michael Batley, Sujaya Rao, and Saul A. Cunningham**, *Austral Entomology* 59:3 (2020), 602-611.

"The Philippine Covidscape Colonial Public Health Redux?" by **Warwick Anderson**, *Historical and Ethnographic Viewpoints* 68:3-4 (2020), 325-337.

"Photographic Catalogue of the Oldest Primary Types of Japanese Ichneumonidae (Hymenoptera), those Described by Frederick Smith and Francis Walker in 1874," by **So Shimizu and Gavin R. Broad**, *Journal of Natural History* 54:17-18 (2020), 1115-1198.

"Phylogenetic Relationships of the Cuscuses (Diprotodontia: Phalangeridae) of Island Southeast Asia and Melanesia based on the Mitochondrial *ND2* gene," by **Shimona Kealy, Stephen C. Donnellan, Kieren J. Mitchell, Michael Herrera, Ken Aplin, Sue O'Connor, and Julien Louys**, *Australian Mammalogy* 42:3 (2020), 266-276.

"Phytoplankton in Dryland Riverine Waterholes: Environmental Drivers, Variability and Ecosystem-monitoring Potential Using Different Levels of Taxonomic Resolution and Dataset Reduction," by **Carrie K. Preite and Richard G. Pearson**, *Marine and Freshwater Research* 72:2 (2020), 244-255.

"Policy Changes in Dam Construction and Biodiversity Conservation in the Yangtze River Basin, China," by **Hongzhang Xu and Jamie Pittock**, *Marine and Freshwater Research* 72:2 (2020), 228-243.

"The Politics of Science and Undone Protection in the 'Samsung Leukemia' Case," by **Jongyoung Kim, Heeyun Kim, and Jawoon Lim**, *East Asian Science, Technology and Society* 14:4 (2020), 573-601.

"Population Decline of the Noisy Scrub-bird is not Correlated with Territory Size, Marginal Declines in Rainfall or Fire Impacts," by **J. Dale Roberts, Alan Danks, Abby Berryman, Nadisha Sidhu, Allan H. Burbidge, and Sarah Comer**, *Pacific Conservation Biology* 26:3 (2020), 230-238.

“Population Genetic Structure of Estuary Perch (*Percolates colonorum* Gunther) in South-eastern Australia,” by **Daniel J. Stoessel, Anthony R. van Rooyen, Luciano B. Beheregaray, Scott M.C. Raymond, Bryan van Wyk, James Haddy, Jason Lieschke, and Andrew R. Weeks**, *Marine and Freshwater Research* 72:2 (2020), 263-274.

“Population Genetic Structure of Indo-West Pacific Carcharhinid Sharks: What Do We Know and Where To From Here?” by **Brenton M. Pember, Jennifer A. Chaplin, Neil R. Loneragan, and Matias Braccini**, *Pacific Conservation Biology* 26:4 (2020), 319-337.

“Potential Connections Between Atmospheric Rivers in China and Australia,” by **Lin Xu, Huqiang Zhang, Weiwei He, Chengzhi Ye, Aurel Moise, and José M. Rodríguez**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 36-53.

“Preventing Rangeland Degradation: A Shared Problem for Australia and China,” by **Kenneth C. Hodgkinson and Deli Wang**, *The Rangeland Journal* 42:5 (2020), 323-328.

“Pua ka Wiliwili, Nanahu ka Manō: Understanding Sharks in Hawaiian Culture,” by **Noelani Puniwai**, *Human Biology* 92:1 (2020), 11-17.

“The Puzzle of Plague Transmission,” by **Patricia Morison and Ian Morison**, *Australian Mammalogy* 42:3 (2020), 172-174.

“Race, Ethnicity, Ancestry, and Genomics in Hawai‘i: Discourses and Practices,” by **Joan H. Fujimura and Ramya M. Rajagopalan**, *Historical Studies in the Natural Sciences* 50:5 (2020), 596-623.

“Radical Changes in the Avifauna of a Sydney Suburb, 1971-2014,” by **Peter Smith and Judy Smith**, *Australian Journal of Zoology* 67:4 (2020), 185-198.

“Redescriptions of a Neglected Species of *Pseudonereis* Kinberg, 1865 (Annelida: Nereididae) and its Similar Congener from the Eastern Tropical Pacific,” by **Tulio F. Villalobos-Guerrero and Izwandy Idris**, *Journal of Natural History* 54:23-24 (2020), 1559-1580.

“Reflections on Climate Change and the Australian Health System,” by **Sotiris Vardoulakis**, *Australian Health Review* 45:1 (2021), 2-3.

“Reformulation and Appropriation of Traditional Knowledge in Industrial Ayurveda: The Trajectory of Jeevani,” by **Harilal Madhavan and Jean-Paul Gaudillière**, *East Asian Science, Technology and Society* 14:4 (2020), 603-621.

“Regional Variation in Habitat Matrix Determines Movement Metrics in Baudin’s Cockatoos in Southwest Western Australia,” by **Sam Rycken, Jill M. Shephard, Lian Yeap, Rebecca Vaughan-Higgins, Manda Page, Rick Dawson, Karen Smith, Peter R. Mawson, and Kristin S. Warren**, *Wildlife Research* 48:1 (2020), 18-29.

“Reproduction of the American Oystercatcher (“piru-piru”), *Haemalopus palliates* Temminck 1820 (Aves: Haematopodidae), in Northeastern Brazil,” by **Airton Janes da Silva Siqueira, Anderson Guzzi, Pedro Cerqueira Lima, João Paulo Tavares Damasceno, Mauro Pichorim, and Carmen Elisa Fedrizzi**, *Journal of Natural History* 54:23-24 (2020), 1513-1524.

“Reptiles of the Northern Marshall Islands,” by **Donald W. Buden, Danko**

Taborši, Maria Kottermair, Andrea Jalandoni, and Matthew Martin, *Pacific Science* 74:2 (2020), 189-209.

“Response Time of Temperature Measurements at Automatic Weather Stations in Australia,” by **G.P. Ayers** and **J.O. Warne**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 160-165.

“Response to ‘The Predominantly Fresh History of Lake Alexandrina, South Australia, and its Implications for the Murray-Darling Basin Plan: A Comment on Geil (2020)’,” by **Thomas Hubble**, **Anna Helfensdorfer**, and **Hannah Power**, *Pacific Conservation Biology* 26:3 (2020), 215-217.

“Responses of Young Plants of *Vachellia farnesiana* to Drought,” by **Josiane Moura** and **Evandro A. Vieira**, *Australian Journal of Botany* 68:8 (2020), 587-594.

“Reverend Voyce and Père O’Reilly’s Excavated Collection from Bougainville: A Case Study in Transnational Histories of Archaeology in the Pacific,” by **Eve Haddow**, **Emilie Dotte-Sarout**, and **Jim Specht**, *Historical Records of Australian Science* 32:1 (2020), 15-28.

“Review of Forest-dwelling Noctuid Moths of the Genua *Pachythrix* Turner, 1942 (Lepidoptera: Noctuidae): Reassessment of the Type Species and Description of a New Species from the Bismarck Archipelago,” by **Alberto Zilli**, *Austral Entomology* 59:4 (2020), 758-769.

“A Review of the Fern Genus *Pellaea* (Pteridaceae) in Australasia,” by **Patrick J. Brownsey**, **Daniel J. Ohlsen**, **Lara D. Shepherd**, **Whitney L.M. Bouma**, **Erin L. May**, **Michael J. Bayly**, and **Leon R. Perrie**, *Australian Systematic Botany* 33:5 (2020), 446-457.

“A Review of Trunk-boring Cycad Weevils in Australia, with Description of a Second Species of *Demysus* Pascoe, 1872 (Coleoptera: Curculionidae),” by **Yun Hsiao** and **Rolf G. Oberprieler**, *Austral Entomology* 59:4 (2020), 677-700.

“A Revised Phylogeny of the New Caledonian Endemic Genus *Troglosiro* (Opiliones : Cyphophthalmi : Troglosironidae) with the Description of Four New Species,” by **Gonzalo Giribet**, **Caitlin M. Baker**, and **Prashant P. Sharma**, *Invertebrate Systematics* 35:1 (2021), 59-89.

“Revision of the Endemic Australian Robber Fly Genus *Daptolestes* Hull, 1962 (Diptera: Asilidae) and Description of *Humorolethalis* gen. nov.,” by **Isabella J. Robinson**, **Xuankun Li**, and **David K. Yeates**, *Austral Entomology* 59:3 (2020), 487-504.

“Revision of Indian Species of *Baeus* Haliday (Hymenoptera: Platygastroidea: Scelionidae),” by **Veenakumari Kamalanathan**, **Prashanth Mohanraj**, **D.K. Samuel**, and **M. Krishna Reddy**, *Journal of Natural History* 54:13-14 (2020), 813-917.

“Revisiting the 1888 Centennial Drought,” by **Mathilde. E.H. Ritman** and **Linden C. Ashcroft**, *Proceedings of the Royal Society of Victoria* 132:2 (2020), 49-64.

“Robert Edwards and the History of Australian Rock Art Research,” by **M.A. Smith**, **J. Ross**, and **R.G. Kimber**, *Historical Records of Australian Science* 32:1 (2020), 41-51.

“Roles of Roadside Vegetation in Insect Conservation in Australia,” by **Timothy R. New**, **Don P.A. Sands**, and **Gary S. Taylor**, *Austral Entomology* (2020), available online at <<https://doi.org/10.1111/aen.12511>>.

“Salinity Risk Assessment of an Irrigation Development using Treated Coal Seam Gas Water in the Condamine River Catchment,” by **M.H. Crawford, K.M. Williams, A.J.W. Biggs, and E. Dafny**, *Soil Research* 59:1 (2020), 44-59.

“Scenes from Everyday Life in the Northern Mariana Islands During the COVID-19 Pandemic,” by **Theresa (Isa) Arriola**, *Oceania* 90:S1 (2020), 41-46.

“Sea Catfishes (Ariidae) Feeding on Freshwater Floodplains of Northern Australia,” by **Bradley J. Pusey, Timothy D. Jardine, Stuart E. Bunn, and Michael M. Douglas**, *Marine and Freshwater Research* 71:12 (2020), 1628-1639.

“Sea Surface Height Trends in the Southern Hemisphere Oceans Simulated by the Brazilian Earth System Model under RCP4.5 and RCP8.5 Scenarios,” by **Emanuel Giarolla, Sandro F. Veiga, Paulo Nobre, Manoel B. Silva, Vinicius B. Capistrano, and Andyara O. Callegare**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 280-289.

“Seamless Climate Change Projections and Seasonal Predictions for Bushfires in Australia,” by **Andrew J. Dowdy**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 120-138.

“Seasonal Climate Summary for the Southern Hemisphere (Autumn 2018): A Weak La Niña Fades, the Austral Autumn Remains Warmer and Drier,” by **Bernard Chapman and Katie Rosemond**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 328-352.

“Seasonal Climate Summary for the Southern Hemisphere (Spring 2017): Equal-fifth Warmest Spring on Record, with Rainfall Mixed,” by **Skie Tobin**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 304-327.

“Seasonal Climate Summary for the Southern Hemisphere (Spring 2018): Positive Indian Ocean Dipole and Australia,” by **Blair Trewin**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 373-392.

“Seasonal Climate Summary for the Southern Hemisphere (Winter 2018): Fifteenth-warmest and Fourteenth-driest,” by **Zhi-Weng Chua**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 353-372.

“Seasonal Diet Preferences of Chital Deer in the Northern Queensland Dry Tropics, Australia,” by **Kurt Watter, Greg Baxter, Michael Brennan, Tony Pople, and Peter Murray**, *The Rangeland Journal* 42:3 (2020), 211-220.

“Seasonal Fine Fuel and Coarse Woody Debris Dynamics in North Australian Savannas,” by **Cameron Yates, Harry MacDermott, Jay Evans, Brett P. Murphy, and Jeremy Russell-Smith**, *International Journal of Wildland Fire* 29:12 (2020), 1109-1119.

“Size Dependent Associations Between Tree Diameter Growth Rates and Functional Traits in an Asian Tropical Seasonal Rainforest,” by **Yu-Mei Yan, Ze-Xin Fan, Pei-Li Fu, Hui Chen, and Lu-Xiang Lin**, *Functional Plant Biology* 48:2 (2020), 231-240.

“Slow Movement of Alkali from Surface-applied Lime Warrants the Introduction of Strategic Tillage for Rapid Amelioration of Subsurface Acidity in South-western Australia,” by **G. Azam and C. Gazey**, *Soil Research* 59:1 (2020), 97-106.

“Snaring the Nuclear Sun: Decolonial Ecologies in Titaua Peu’s *Mutismes: E ‘Ore te Vāvā*,” by **Anaïs Maurer**, *The Contemporary Pacific* 32:2 (2020), 371-397.

“Social and Logistical Challenges in Managing Invasive Predators: Insights from Island in Japan and New Zealand,” by **Alistair S. Glen** and **Kazuaki Hoshino**, *Pacific Conservation Biology* 26:4 (2020), 344-352.

“Soil Fertility Constraints and Management to Increase Crop Yields in the Dryland Farming Systems of Aceh, Indonesia,” by **Malem K. McLeod**, **S. Sufardi**, and **S. Harden**, *Soil Research* 59:1 (2020), 68-82.

“Soil Microbes Generate Stronger Fitness Differences than Stabilization among California Annual Plants,” by **Gaurav S. Kandlikar**, **Xinyi Yan**, **Jonathan M. Levine**, and **Nathan J.B. Kraft**, *The American Naturalist* 197:1 (January 2021), E30-E39.

“Source of Detritus in Subducted Turbidites, Tectonic Melange, Port Macquarie Block, Southern New England Orogen, Australia – A Geochemical Perspective,” by **Robin Offler** and **Ron Boyd**, *The Journal of Geology* (2020), available online at <<https://www.journals.uchicago.edu>>.

“Southernmost Observation of a Juvenile Bumphead Parrotfish, *Bolbometopon muricatum* (Valenciennes, 1840),” by **Storm B. Martin**, **Kristen T. Brown**, and **Ove Hoegh-Guldberg**, *Australian Journal of Zoology* 67:4 (2020), 199-202.

“Spatial Correlates of Forest and Land Fires in Indonesia,” by **Z.D. Tan**, **L.R. Carrasco**, and **D. Taylor**, *International Journal of Wildland Fire* 29:12, (2020), 1088-1099.

“Spatial Extent of Invasiveness and Invasion Stage Categorisation of Established Weeds of Queensland, Australia,” by **Olusegun O. Osunkoya**, **Claire Lock**, **Joshua C. Buru**, **Brad Gray**, and **Moya Calvert**, *Australian Journal of Botany* 68:8 (2020), 557-573.

“Spatiotemporal Distributions of Two Sympatric Sawsharks (*Pristiophorus cirratus* and *P. nudipinnis*) in South-eastern Australian Waters,” by **Vincent Raoult**, **V.M. Peddemors**, **K. Rowling**, and **Jane E. Williamson**, *Marine and Freshwater Research* 71:10 (2020), 1342-1354.

“Spatiotemporal Patterns of Alien Plant Invasions in One of the Last Pristine Wet Forests of Hawai‘i,” by **Thomas Ibanez**, **Jacob Gross**, **Patrick Hart**, **Alison Ainsworth**, **Jeffrey Mallinson**, and **Ryan Monello**, *Pacific Science* 74:2 (2020), 99-113.

“Species Diversity in Bee Flies and Hover Flies (Diptera: Bombyliidae and Syrphidae) in the Horticultural Environments of the Blue Mountains, Australia,” by **Alexander R. Robertson**, **Jonathan T.D. Finch**, **Andrew D. Young**, **Robert N. Spooner-Hart**, **Soraya K.M. Outim**, and **James M. Cook**, *Austral Entomology* 59:3 (2020), 561-571.

“Species in the Faeces: DNA Metabarcoding as a Method to Determine the Diet of the Endangered Yellow-Eyed Penguin,” by **Melanie J. Young**, **Ludovic Dutoit**, **Fiona Robertson**, **Yolanda van Heezik**, **Philip J. Seddon**, and **Bruce C. Robertson**, *Wildlife Research* 47:6 (2020), 509-522.

“Species of Accidental Woody Epiphytes Vary Between Host Trees in Tasmanian Wet Forests,” by **Yanti Winoto-Lewin** and **Jamie B. Kirkpatrick**,

Australian Journal of Botany 68:8 (2020), 532-541.

“Status of Wetland research in China,” by **Lie Zhang, Shuqing An, and Xin Leng**, *Marine and Freshwater Research* 71:12 (2020), 1572-1591.

“Stigma, Separation, Sorrow: Leprosy in Australia,” by **Jenny Davis**, *Australian Mammalogy* 42:3 (2020), 187-191.

“Stock-specific Assessment of Precise Age and Growth in the Long-whiskered Catfish *Sperata aor* from the Ganges River,” by **Aafaq Nazir and M. Afzai Khan**, *Marine and Freshwater Research* 71:12 (2020), 1693-1701.

“Stratigraphy, Depositional Setting and SHRIMP U-Pb Geochronology of the BIF-bearing Bailadila Group in the Bacheli Iron Ore Mining District, Bastar Craton, India,” by **Joydip Mukhopadhyay, Richard Armstrong, Jens Gutzmer, Michiel de Kock, and Nicolas J Beukes**, *The Journal of Geology* 128:5 (2020), available online at <https://www.journals.uchicago.edu>.

“Streamlining the Graphical Forecast Process,” by **Andrew Just and Michael Foley**, pp. 108-113.

“The Changing Role of Operational Meteorologists” by **Jenny Sturrock and Deryn Griffiths**, *Journal of Southern Hemisphere Earth Systems Science* 70:1 (2020), 114-119.

“Sustainable Agriculture and Multifunctionality in South Australia’s Mid North Region,” by **Alexandre Dubois and Dean Carson**, *Australian Geographer* 51:4 (2020), 509-534.

“Swamp Wallaby (*Wallabia bicolor*) Distribution has Dramatically Increased Following Sustained Biological Control of Rabbits,” by **B.D. Cooke**, *Australian Mammalogy* 42:3 (2020), 321-328.

“Systematic Revision of the Indo-West Pacific Colourful Bubble-snails of the genus *Lamprohaminoea* Habe, 1952 (Cephalaspidea: Haminoeidae),” by **Trond R. Oskars and Manuel António E. Malaquias**, *Invertebrate Systematics* 34:7 (2020), 727-756.

“The Systematics and Phylogenetic Position of the Troglobitic Australian Spider genus *Troglodiplura* (Araneae: Mygalomorphae) with a new Classification for Anamidæ,” by **Mark S. Harvey, Michael G. Rix, Mia J. Hillyer, and Joel A. Huey**, *Invertebrate Systematics* 34:8 (2020), 799-822.

“Tarama, a Treasured Māori Perfume of Ngāi Tahu from *Aciphylla* Species of Aotearoa New Zealand: a Review of Mātauranga Māori and Scientific Research,” by **Aaria Dobson-Waitere, Robin MacIntosh, Matapura F. Ellison, Bruce M. Smallfield, and John W. van Klink**, *Journal of the Royal Society of New Zealand* (2021) available online at <<https://doi.org/10.1080/03036758.2020.1856147>>.

“Targeted Sampling Successfully Detects the Cryptic and Declining Arboreal Marsupial (*Phascogale pirate*) in Northern Australia,” by **Hayley M. Geyle, Leigh-Ann Woolley, Hugh F. Davies, John C.Z. Woinarski, and Brett P. Murphy**, *Pacific Conservation Biology* 26:4 (2020), 395-403.

“Taxonomic Revision of Species in the New Zealand Endemic Genus *Peniticus* Sharp, 1876 and *Pilacolaspis* Sharp, 1886 (Coleoptera: Chrysomelidae),” by **Jesús**

Gómez-Zurita, *Austral Entomology* 59:4 (2020), 701-730.

“Taxonomic Revision of the *Myosotis australis* Group (Boraginaceae) Native to Australia, New Zealand and New Guinea,” by **Heidi M. Meudt**, **Michael J. Thorsen**, and **Jessica M. Prebble**, *Australian Systematic Botany* 33:6 (2020), 477-524.

“Taxonomy and Genetic Diversity of Amphipods Living on *Ulva lactuca* L. from Gouqi Coast, China,” by **Jinlin Liu**, **Minmin Zhuang**, **Lijuan Zhao**, **Yikai Liu**, **Qinlin Wen**, **Meilin Fu**, **Kefeng Yu**, **Jianheng Zhang**, and **Peimin He**, *Pacific Science* 74:2 (2020), 113-146.

“Testing the Impact of Community Composition on The Productivity of a Cool Temperature Eucalypt Forest: The Australian Forest Evenness Experiment (AFEX),” by **Melissa R. Gerwin**, **Rose Brinkhoff**, **Travis Britton**, **Meagan Porter**, **Ruth K. Mallett**, and **Mark J. Hovenden**, *Australian Journal of Botany* 68:4 (2020), 310-319.

“Their Sea of Islands? Pacific Climate Warriors, Oceanic Identities, and World Enlargement,” by **Hannah Fair**, *The Contemporary Pacific* 32:2 (2020), 341-369.

“Therapeutics for COVID-19: Established and in Development,” by **Kasha P. Singh**, **Joe Sasadeusz**, **Sharon R. Lewin**, and **Jennifer Audsley**, *Australian Mammalogy* 42:3 (2020), 217-223.

“This is Our Story: Yanyuwa Experiences of a Pandemic,” by **Dinah Norman**, **Jemima Miller**, **Maris Timothy**, **Graham Friday**, **Leonard Norman**, **Gloria Friday**, **Adrianne Friday**, **Warren Timothy**, **Joanne Miller**, **Lettie Norman**, **Noeleen Raggett**, **Colleen Charlie**, **Carole Charlie**, **Miriam Charlie**, **Rhoda Hammer**, **Marlene Timothy**, **Peggy Mawson**, **John Branley**, and **Amanda Kearney**, *Oceania* 90:S1 (2020), 34-40.

“Thylacine and Tasmanian Devil: Between Hope and Reality – A Lesson to be Learnt from Google Trends Search Data,” by **Michael Zieger** and **Steffen Springer**, *Australian Journal of Zoology* 67:4 (2020), 221-225.

“Tiny Hitchhikers and Parasites: A Review of Australian Heterostigmatic Mites (Acari: Prostigmata) Associated with Insects, with Description of Three New Species,” by **Alihan Katlav**, **Markus Riegler**, and **Owen D. Seeman**, *Austral Entomology* 59:3 (2020), 401-421.

“Tongan Collective Mobilities: Familial Intergenerational Connections Before, During, and Post COVID-19,” by **Ruth (Lute) Faleolo**, *Oceania* 90:S1 (2020), 128-138.

“Toxicity and Persistence of Permethrin-Impregnated Clothing Against the Australian Paralysis Tick, *Ixodes holocyclus* (Acari: Ixodidae),” by **Amonrat Panthawong**, **Theeraphap Chareonviriyaphap**, and **Stephen L. Doggett**, *Austral Entomology* 59:4 (2020), 845-851.

“Trace metals and nutrients in lake sediments in the Province of Bali, Indonesia: a baseline assessment linking potential sources,” by **Irdhawati**, **Manuntun Manuruang** and **Amanda Reichelt-Brushett**, *Marine and Freshwater Research* 72:1 (2020), 66-75.

“Transforming the Wetland Conservation System in China,” by **Ziliang Guo**, **Weiwei Liu**, **Manyin Zhang**, **Yuguang Zhang**, and **Xiaoyu Li**, *Marine and*

Freshwater Research 71:11 (2020), 1469-1477.

“Transmission of Renaissance Herbal Images to China: the Beitang Copy of Mattioli’s Commentaries on Dioscorides and its Annotations,” by **Wu Huiyi** and **Zheng Cheng**, *Archives of Natural History* 46:1 (2020), 236-253.

“A Trial Reintroduction of the Western Quoli to a Fenced Conservation Reserve: Implications of Returning Native Predators,” by **R.S. West**, **L. Tilley**, and **K.E. Moseby**, *Australian Mammalogy* 42:3 (2020), 257-265.

“Tuberculosis: Yesterday, Today and Tomorrow,” by **Chris Lowbridge** and **Anna P. Ralph**, *Australian Mammalogy* 42:3 (2020), 192-195.

“Two New Species of *Antomicron* Cobb, 1920 (Nematoda: Leptolaimidae) from Jiaozhou Bay, China,” by **H.X. Zhai**, **C.M. Wang**, and **Y. Huang**, *Journal of Natural History* 54:19-20 (2020), 1199-1212.

“Two Short Pollen Records from the Late Holocene and Pre Last Glacial of Flinders Island, South Eastern Australia,” by **P.G. Ladd** and **I.C. Clark**, *Australian Journal of Botany* 69:1 (2020), 1-8.

“*Tyligma* gen. nov., a new Australian Genus of Planthopper and a Key to the Australian Genera of Cixiini (Hemiptera: Cixiidae),” by **Birgit Locker** and **Werner E. Holzinger**, *Austral Entomology* 59:4 (2020), 747-757.

“Understanding how Aboriginal Culture can Contribute to the Resilient Future of Rangelands – the Importance of Aboriginal Core Values,” by **Mal Ridges**, **Mick Kelly**, **Geoff Simpson**, **John Leys**, **Sandy Booth**, **Margaret Friedel**, and **Ngyampaa Country**, *The Rangeland Journal* 42:5 (2020), 247-251.

“Understanding the SARS-CoV-2 Pandemic as Evolution in Action,” by **Will Cairns**, *Australian Mammalogy* 42:3 (2020), 213-216.

“Unmasking the Essential Realities of COVID-19: The Pasifika Community in the Salt Lake Valley,” by **Kehaulani Vaughn**, **Jacob Fitisemanu Jr.**, **Inoke Hafoka**, and **Kehaulani Folau**, *Oceania* 90:S1 (2020), 60-67.

“Using Models to Inform Water Policy in a Changing Climate: Comparing the Australian and Uruguayan Experiences,” by **A. Silvarrey Barruffa**, **R. Faggian**, **V. Sposito**, and **M. Duarte Guigou**, *Marine and Freshwater Research* 72:2 (2020), 275-287.

“Variations of Belowground C and N Cycling Between Arbuscular Mycorrhizal and Ectomycorrhizal Forests across China,” by **Jiwei Li**, **Zhouping Shangguan**, and **Lei Deng**, *Soil Research* 58:5 (2020), 441-451.

“Vertical Transmission,” by **Dena Lyras**, *Microbiology Australia* 41:4 (2020), 166-166.

“Viral Devotionality and Christian Solidarity in/beyond Borneo,” by **Liana Chua**, *Oceania* 90:S1 (2020), 6-13.

“Viral Sovereignty or Sequence Etiquette? Asian Science, Open Data, and Knowledge Control in Global Virus Surveillance,” by **Lyle Fearnley**, *East Asian Science, Technology and Society: an International Journal* 14:3 (2020), 479-505.

“Volcanism in Aboriginal Australian Oral Traditions: Ethnographic evidence from the Newer Volcanics Province,” by **Benjamin Wilkie**, **Fred Cahir**, and **Ian D. Clark**, *Cultural History* 9:2 (2020), 217-240.

“‘We Don’t Want to Drink that Water’: Cross-cultural Indicators of Billabong Water Quality in Remote Indigenous Australia,” by **Shaina Russell, Emilie J. Ens, and Ngukurr Yangbala Rangers**, *Marine and Freshwater Research* 71:10 (2020), 1221-1233.

“What Does Climate Change Have to do with Bushfires?” by **Bin Jalaludin and Geoffrey G. Morgan**, *Australian Health Review* 45:1 (2021), 4-6.

“What History Teaches us about Vaccines and Pandemics,” by **David Isaacs**, *Australian Mammalogy* 42:3 (2020), 168-171.

“What is Needed to Restore Native Fishes in Australia’s Murray-Darling Basin?” by **John D. Koehn, Stephen R. Balcombe, Lee J. Baumgartner, Christopher M. Bice, Kate Burndred, Iain Ellis, Wayne M. Koster, Mark Lintermans, Luke Pearce, Clayton Sharpe, Ivor Stuart, and Charles R. Todd**, *Marine and Freshwater Research* 71:11 (2020), 1464-1468.

“Why Introducing a Parasitoid of *Paropsis charybdis* Stål, 1860 (Coleoptera: Chrysomelidae) Larvae is Expected to Enhance Biological Control of this *Eucalyptus* Pest in New Zealand,” by **Andrew R. Pugh, Toni M. Withers, Elise M. Peters, Geoff R. Allen, and Craig B. Phillips**, *Austral Entomology* 59:4 (2020), 829-837.

“Wombat Gates Effectively Exclude Browsing Mammals from Pasture and Allow Passage of Common Wombats,” by **Micharl M. Driessen, Rosemary Gales, Katharina Hehn, Elise Dewar, and Guy Dobner**, *Australian Mammalogy* 42:3 (2020), 375-379.

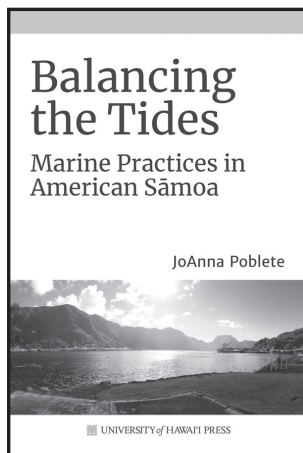
“Yellow-Bellied Gliders Use Glide Poles to Cross the Pacific Highway at Halfway Creek, North-East New South Wales,” by **B.D. Taylor and D.A. Rohweder**, *Australian Mammalogy* 42:3 (2020), 385-387.

“The Yellow Sea Warm Current Flushes the Bohai Sea Microbial Community in Winter,” by **Caixia Wang, Yibo Wang, Pengyuan Liu, Lin Wu, James S. Paterson, James G. Mitchell, Andrew T. Revill, and Xiaoke Hu**, *Marine and Freshwater Research* 71:12 (2020), 1616-1627.

“*Zealastoa* Quicke & Ward, gen. nov., A New Basal Cyclostome Braconid Wasp (Hymenoptera: Braconidae) from New Zealand,” by **Donald L.J. Quicke, Darren F. Ward, Sergey A. Belokobylskij, and Buntika A. Butcher**, *Austral Entomology* 59:3 (2020), 455-466.



BOOK REVIEWS



JoAnna Poblete, *Balancing the Tides: Marine Practices in American Sāmoa*. Honolulu: University of Hawai‘i Press, 2020. ISBN-13: 9780824879686, 214 pages, 11 b&w illustrations, \$US68.00.

In *Balancing the Tides*, JoAnna Poblete demonstrates how the post-World War II implementation of United States federal marine fisheries and sanctuary policies expanded US imperial power over the unincorporated territory of American Sāmoa. This presented a shift away from the Deeds of Cession (1900) which allowed for the preservation of indigenous village-based governance in the archipelago. Poblete argues that US federal marine policies are often rooted in Western environmental practices that continue to displace or undervalue indigenous Sāmoan oceanic knowledge, culture, and social values. This tension between the federal, the territorial, and the village on how to regulate marine practices and life in American Sāmoa is indicative of the ongoing processes of colonial negotiation found within the US territories.

In each of her chapters, Poblete examines a case study of marine practices to highlight a particular aspect of the federal-territorial relationship in American Sāmoa. Poblete evaluates the impact of federal policy by presenting both federal and indigenous Samoan perspectives. In chapter one, she historicizes the rise of international commercial fishing and the establishment of exclusive economic zone around the archipelago in relation to the transition of Sāmoan fishing techniques from the traditional to the modern. In chapter two, she examines the implementation of the US federal minimum wage policy and the economic ramifications experienced by the tuna canneries as well as the social and cultural effects on Sāmoan community both within the archipelago and in the diaspora. In chapter three, she highlights the federal expansion of the National Marine Sanctuary, which abided by indigenous practices of conservation, but ultimately transferred power and regulation away from the American Sāmoan Government, a “dispossessive procedure disdained by the local community” (p. 85).

While the first three chapters demonstrate why federal policies can be detrimental, the last chapter highlights the Community-based Fisheries Management Program, a prime example of how federal policies could be successfully implemented in accordance of *fa’a Sāmoa*. Nevertheless, Poblete points out, the program’s

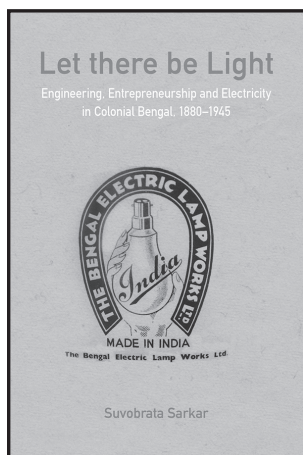
requirements are not easily achieved, and its processes do not necessarily conform to the American Sāmoan context. This potentially threatens the territory's GDP, one that has become increasingly dependent on federal grants. Collectively, her chapters provide key insights into how federal policies are imperial policies, in which more and more local indigenous control over the ocean is usurped by corporate desires, international politics, and, even, well-meaning environmentalists.

Poblete bridges US imperial studies, environmental history, and Pacific Studies. She's influenced by the term "bioregionalism" to contextualize and understand the relationships between colonialism, the environment, and indigenous Sāmoan culture. Citing the work of multiple Sāmoan scholars, Poblete uses the concepts of *fa'a Sāmoa*, 'vā', and *aiga* as well as community institutions such as the *matai* in order to contextualize Sāmoan responses towards US federal marine policies. Throughout her book, she shows how federal policies that do not account for these cultural norms are often met with Sāmoan distrust and lack of support. Oppositely, federal policies that follow *fa'a Sāmoa*, are more likely to succeed, though not without its fair share of problems. In addition, and in line with methods Pacific and indigenous studies, she utilizes oral histories and interviews to emphasize Sāmoan experiences and perspectives and to fill in the gaps of the colonial archive which consists mostly of US federal department reports and congressional records.

Balancing the Tides is a matter of fact historicization of federal marine policy in American Sāmoa. Poblete's efficient writing and ability to clearly outline what are complicated federal policies and mixed indigenous perspectives to hotly debated issues only add to this observation. Striking this balance, especially when studies of US empire are often compelled to make grand statements about imperial power, indigenous resistance, or decolonization, is a welcomed perspective. It acknowledges the complexity of ongoing issues in the US territories which need solutions that are not only theoretically sound, but are practical and cognizant of the various factors affecting indigenous communities. It also demonstrates Poblete's understanding of the imperial contexts specific to each territory; a solution for one territory is not necessarily the solution for another. This being said, the solution implicitly posed for marine policies in American Sāmoa – that federal policies should incorporate more indigenous practices to be successful – seems to only reify the problem of the increased amount federal oversight in local affairs in recent decades.

Overall, *Balancing the Tides* is a needed contribution to the growing literature of American Sāmoa and to studies of United States insular empire. Though limited in its topic, it provides a useful method in evaluating the effects of federal policies within the US territories, acknowledging top-down perspectives, but, more importantly, emphasizing cultural values that influence indigenous and local responses to federal-territorial (read: imperial) relationships.

Kristin Oberiano
Harvard University



Suvobrata Sarkar, *Let there be Light: Engineering, Entrepreneurship and Electricity in Colonial Bengal, 1880-1945*, New York: Cambridge University Press, 2020, 294 pages, \$US99.99, ISBN 978-1-108-83598-5.

This laudable book is by a young but prominent historian of science in the eastern fringe of the India. Here was situated the capital of colonial India in the ‘City of Calcutta’ until 1911. And the city has been the Knowledge Hub of the country, with three of the Presidents of India being educated here only, including the first. The East India Company, coming for trade in 1757 to Bengal, plundered it massively as

mentioned in many historical accounts. The fall of the American Empire of the British was in 1783 after a bitter war, but India had its independence from colonial shackles in 1947, mostly by peaceful means.

This monograph is one of the first of its kind and the target audience is post graduate students and research scholars of South East Asian studies in general and India in particular. And of course, for teachers.

The book has five chapters besides Introduction and Conclusion –

1. Technical knowledge and its Institutions
2. Entrepreneurship, Industry and Technology
3. Electrification: the Shaping of a Technology
4. Domesticating Electricity
5. Assimilation of Technological Ideas

The idea is to show how education shaped engineering knowledge (I shall stick to engineering term as in Sarkar’s title because if science is ‘how’ and ‘why,’ engineering is the conceptualisation, design and technology is the technique of transmitting the knowledge to the society via industry – as Lewis Mumford explained in his seminal book, ‘Technics and Civilization,’ the English translation of which was published in 1934.

Bengal Sarkar has chosen the government sponsored Bengal Engineering College, Shibpore (which was initially under Calcutta University, estd. 1857) and in the early stages it mainly produced Civil Engineers for absorption in Public Works Department (the engineering wing of the colonial rulers for manpower exploitation). The story of its shifting to Shibpore, adjoining the city and then becoming an ‘expanded engineering institute’ has been well described.

There was a wadeshi (independent of foreign collaborators) engineering education model started by Satish Chandra Mukherjee the National Council of Education in 1905, which has rightly been narrated by Sarkar as one the offshoots of the Dawn Magazine. Then in 1906, the National College was established with Sri Arobinda Ghosh as Principal and Mechanical Engineering was one of the streams in the curriculum.

Its transformation to Bengal Technical Institute (with Sri Pramatha Nath Bose as Principal, Sarkar mentions Pramatha Nath in his Chapter 5 in detail. He was a famous geologist who helped the Industrialists Tatas to locate steel and coal mines in eastern India) and then to the College of Engineering and Technology shifting to Jadavpur in 1929 (where the 'offspring' Jadavpur University is located since 1955), courtesy Sri Chittaranjan Das who was then the Mayor of Calcutta Corporation, (the Municipal authorities then). The history has been chronicled by Sarkar in great detail.

In Chapter 2, Sarkar writes about Acharyya Prafulla Chandra Ray, who was the teacher of most of the eminent scientists in 1920s in Bengal. Trained in Edinburgh, he came to India, joined Calcutta University, and did his research and teaching till his death in the (Rajabazar) Science College Campus till his death. He was also the President of the National Council of Education (from 1922-1944), and initiated the first Chemical Engineering Department in India around 1922 with Prof. Hiralal Roy of NCE, who returned to the country after his higher education in Harvard University. Sarkar has rightly given importance to his establishment of the Bengal Chemical by P.C. Ray which is presently a Government of India owned organisation.

Sir Rajendranath Mookerjee is really one of the forgotten builders whom Sarkar retrieved from primary sources and he must be lauded. Mookerjee made the Howrah Bridge Design, the Drinking Water supply system to the City of Kolkata, and the Victoria Memorial. Also established with Mr. Martin, the Martin Burn Co., the Braithwaite Co. Alumnus of Shibpore B.E. College in Civil Engineering, he devoted his life to buildings and palaces all over India. Such was his reputation. He was awarded the D.Sc. (Engineering) by Calcutta University in 1931. His crowning achievement is the construction of the Belur Temple at the bank of Ganges for Ramkrishna Mission. All the credit goes to Sarkar to bring R.N. Mookerjee's name to the international spotlight.

I would suggest two sources here when Sarkar brings out the second print:

- (1) P.C. Ray – A Revolutionary Nationalist in Police Records and Other Documents, Ed. Anil Bhattacharyya, K.P. Bagchi and Co., 2015, and
- (2) The Legendary Sri Rajendranath Mookerjee, ed. Tarun Rana, Kolkata Municipal Corporation, 2013. This book gives almost a complete list of his exhaustive list of his engineering works spread all over India.

The chapter 3 is about the establishment of the Calcutta Electricity Supply Corporation in 1899 in Calcutta and the subsequent electrification of horse-driven

Tramways in Kolkata to electric motor-driven in 1920.

It is astonishing, the technical ideas of the 1882, first 125 horsepower coal-fired electric power plant in London, and in the same year – 1882 in New York City – by Thomas Alva Edison's Edison Electric Light Co. diffused to Calcutta so fast. We would have been benefitted by some study by Sarkar on this rapid transmission of knowledge when internet was absent. What interest of colonials did it serve?

Chapter 4 talks of 'Domesticating Electricity' where he talks profusely of Pramamatha Nath Bose (the first Geologist Principle of Bengal Institute of Technology, the mother body of Jadavpur University); Jogesh Chandra Roy Bidyanidhi, who was in Ravenshaw College in Cuttack in Orissa (Ref. Ravenshaw College by Nivedita Mohanty, 1868-2006, Prafulla, 2017), and Meghnad Saha (who was the initiator of the National Planning Committee in Congress in 1930s). Meghnad Saha, (eminent astrophysicist, three times nominated for Nobel Prize for his fundamental work on Thermal Ionisation and a Member of Parliament of Independent India) was all in favour of Electrification. This has also been well brought out by Sarkar. The electric power was mostly used for lighting in early 20th century, but consumers were generally Industry, Agriculture, Street Light, Commercial Establishments and Sewerage and Water Pumping. Sarkar points out that the growth of these sectors were minimal at that time.

Chapter 5 is the essence of the book – a very important chapter where Sarkar excellently deals with the different models (Basalla, Edgerton, Dhruv Raina, MacLeod, et al.) of the diffusion of technology in colonies and how it happened in colonial Bengal where some indigenous technical skills were nascent.

The book is closed by a well-written conclusion suggesting future scope of work of study of S&T growth in colonial India, particularly in Bengal which really was the 'Knowledge Hub' of India till maybe the 1940s.

The establishment of the first IIT was in 1955 based on the N.R Sarkar Commission Report of 1946 and Sarkar must have had the future vision of technical education in Bengal/India when he elaborated this. In this context, may I suggest two books:

(1) Engineering Education in India – Past, Present and Future, Samir Kr. Saha, Sahitya Samsad, Kolkata, 2012.

(2) Profile of Engineering Education in India Status, Concerns and Recommendations – G. Biswas, K.L. Chopra, C.S. Jha, D.V. Singh, Indian National Academy of Engineering & Narosa Publishing House, 2012. (Soft copy available in INAE Website.)

Ending this review, it must be said that this is a book covering a very wide area and first of its kind regarding Bengal; {other books are in Bengali.} I would suggest libraries to go for this copy and serious scholars acquire this copy to understand Bengal and India in the perspective of indigenous knowledge and entrepreneurship in a highly intellectual colonial environment.

The following corrections need to be made on p. 27:

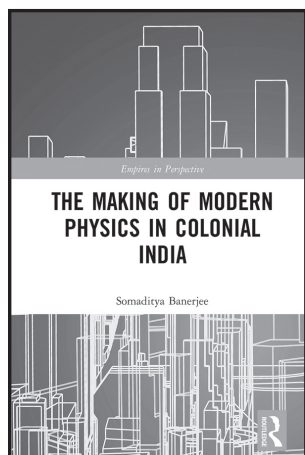
1. Jonathan Coppersmith book is Electrification of Russia (1866-1928).
2. Benoy Kr. Sarkar, Education for Industrialisation: An Analysis of Forty Years' Work of Jadavpur College of Engineering & Technology, 1905-45.

Complete titles need to be given for such important references.

Samir Kumar Saha

Prof. of Mechanical Engineering (Retired), Jadavpur University

Member, Research Council, National Commission of History of Science



Somaditya Banerjee, *The Making of Modern Physics in Colonial India*, London and New York: Routledge, Taylor & Francis Group, 2020, Illustrations. xviii + 202. Notes. Index. B & W Photographs. Hardback and eBook Formats. ISBN 9781472465535 and 9781315555799.

This is arguably the first comprehensive book-length study of an extremely important topic in the history of science by a professionally trained historian of science.

An extraordinary scientific revolution based on relativity and quantum theory – perhaps the most important scientific revolution since the European Renaissance – shook the foundations of physics in the first three decades of the twentieth century. In the present era of global science, we often forget that this revolution was the handiwork of a small group of individuals who worked in a few centres of science spread over a very limited region of Western Europe. Most of these scientists knew each other well and often met at such venues as the Solvay conferences. Many of them also had the habit of exchanging their ideas through letters, which could typically reach the recipient in a day of two. Even in that age many decades before the internet and e-mails, the news of any major breakthrough would diffuse quickly through this closely-knit family of physicists. It certainly did appear that an outsider in a remote land had a very little chance of making an inroad into this charmed circle. Apart from the fact that an outsider would be cut off from the intellectual atmosphere which nourished the minds of the insiders, the news of any important discovery would often reach a remote land only when the scientific journal reporting the discovery reached there by the slow surface mail many weeks after the publication of the work.

When this scientific revolution was at its height, suddenly three important breakthroughs came within a few years from a distant impoverished land under the colonial rule without much of a previous tradition of research in modern physics: the Saha ionization equation in 1920, the Bose statistics in 1924 and the Raman effect in 1928. Perhaps the Compton effect discovered in the USA was the only other discovery of that class pertaining to the new physics that was made outside Western Europe during this tumultuous decade of 1920s. A most amazing fact is that the three discoverers – Saha, Bose and Raman – were the faculty members of one small physics department at Calcutta University (with a faculty strength of barely about a dozen) newly established in 1916. Although Bose had shifted to Dacca University at the time of his famous discovery, he maintained organic links with Calcutta where he had started his professional career. It is often not realized how unique and unusual this event was in the annals of the history of science. It will be difficult to find another similar example.

Somaditya Banerjee's *The Making of Modern Physics in Colonial India* discusses the significance of the scientific achievements of his three protagonists in the context of the international developments in the world of physics and, at the same time, describes the socio-cultural milieu in which they grew up and which shaped their general outlook of life. It is a book of considerable scholarship, based on meticulous archival research and with an extensive and valuable bibliography. Banerjee is also a skilled writer who knows how to hold his reader's attention. It is no mean feat on the part of Banerjee that he carries his scholarly baggage lightly, without making the book heavy and ponderous. Apart from professional historians of science, even common readers may find the book informative and worth reading. On opening the book, one finds a string of high accolades from various scholars around the world in the opening pages.

There is no doubt that the book will appear impressive to a reader who knows nothing about these remarkable scientific developments which took place in India nearly a century ago. But does the book appear authentic and reliable to somebody who had some previous knowledge of the subjects being discussed in the book? Before setting forth my views, I should put down my cards on the table. I am a physicist working in India displaced in time by a little more than six decades from Raman, Bose and Saha. They have been our intellectual heroes ever since we started learning physics in our college days (Raman and Bose were still alive when I was in high school). Physicists of my generation working in India often have to face the disturbing question even from the general public why there has not been a fourth physics discovery of the same class made in India in the nine decades after the three famous discoveries of the 1920s. Pondering over this question, some of us have been led to study the science of Raman, Bose and Saha along with the conditions which provided the background for their science. Although I am not professionally trained in history of science, perhaps these studies qualify me to some extent to review a

book on this subject. While going through Banerjee's book, the question which is naturally uppermost in my mind is what new insights this book may provide to a physicist. A historian of science reviewing this book presumably will be guided by somewhat different considerations.

The professed aim of Banerjee is to approach his subject 'from a multidisciplinary point of view, incorporating the social and cultural history of science, postcolonial theory, and the history of South Asia' (p. 1). Banerjee correctly points out the gap between 'the separate fields of South Asian history and the history of science' and claims that his main aim is 'to bridge an important historiographic lacuna in the existing body of scholarship' (p. 22). This is unquestionably a very laudable and worthwhile, but somewhat ambitious goal. A reviewer's job is to assess how far Banerjee has succeeded in his avowed goal. The main problem which I have – and I believe that many other Indian physicists will have – is the central thesis around which Banerjee has woven his narrative. The central thesis of Banerjee is that 'for all three of them, the *bhadralok* identity is the key for understanding their lives and main accomplishments as scientists' (p. 2), with repeated references to their science as '*bhadralok* physics'. The term *bhadralok* is defined differently in different places of the book. One definition is that they are a class of people 'who received European-style education and training', whereas the other definition is that their vocations kept them away from manual labour. These two definitions certainly do not always coincide. For example, Meghnad Saha's father owned a grocery shop in his village and was probably better off than many other villagers. He would not be considered a *bhadralok* by the first definition, but may be included in this category if we follow the other definition. A bigger problem, however, is in identifying the geographical spread of this class. Historically, a class of people in the state of Bengal (of which Calcutta was the principal city) in the eastern part of British India referred to themselves as *bhadralok*. Certainly Bose and Saha came from this part of British India. However, Raman hailed from the Tamil country in the deep south of India. The Tamil Brahmin class, to which Raman belonged, was as distinct from the Bengali *bhadralok* class in language, customs, food habits and cultural heritage as one can imagine. Raman was extremely proud of his roots and probably would have strongly resented any suggestion that he be clubbed with the Bengali *bhadraloks*. Banerjee has cited several scholars who had studied the *bhadralok* class. From the titles of their works as given in the bibliography, one surmises that all these previous scholars took the *bhadralok* class to be specifically a class belonging to Bengal. Allowing Banerjee to extend the definition of the *bhadralok* class all over India, we come to the question whether we get a deeper insight into the science of Raman, Bose and Saha merely by clubbing Raman as a *bhadralok* along with Bose and Saha.

Banerjee's claim is that he intends to extrapolate to the Indian situation the highly debated work of Paul Forman, who argued that the lack of causality in quantum mechanics had roots in the culture of Weimar Germany. Apart from

mentioning that this 'Forman thesis' has been contested by many historians of physics, this is not the appropriate place to get into a detailed discussion of it. I shall merely restrict myself to a discussion of whether identifying the science of Raman, Bose and Saha as '*bhadralok* physics' helps us in any way in understanding their extraordinary achievements at a deeper level.

After putting forth the main aim of his book in Chapter 1, Banerjee devotes Chapter 2 to delineating the various characteristics of the *bhadralok* class, with special reference to Bose. The next three chapters (Chapters 3, 4 and 5) respectively deal with Bose, Raman and Saha. These chapters provide brief outlines of their early life and then describe their principal scientific contributions. In the case of Bose and Raman, there is virtually no discussion of their later lives after their famous works. However, in the chapter on Saha, Banerjee discusses in detail the political activities of Saha in his later life – especially his debates with Nehru on the policies which India should follow after the Independence. The debate between Saha and Nehru is certainly of intrinsic historical importance, but the discussion of this debate appears logically disconnected from the rest of the book and one wonders why this discussion is there. The short concluding chapter summarizes the book without advancing any new arguments. Curiously, even in Chapters 3, 4 and 5 where Banerjee describes the scientific discoveries of Raman, Bose and Saha, there are only some passing remarks that their discoveries are examples of *bhadralok* physics and no detailed analysis of how this approach of identifying their science as *bhadralok* physics helps us in understanding their creativity. The only arguments to justify this approach are to be found in the first two chapters of the book.

Since Maxwell, who showed that light is an electromagnetic wave, was British, Banerjee advances the strange hypothesis that adhering to the wave theory of light would be an indication of a physicist's subservience to the British colonialism. On the other hand, quantum theory arose in Germany, which Banerjee portrays as a counterbalance to Britain. According to him, a ready acceptance of quantum theory indicated an anti-colonial attitude. Since Raman was a great admirer of the wave theory and carried out considerable research based on this theory, Banerjee surmises that 'Raman's physics was essentially colonial in character' (p. 3). On the other hand, Bose and Saha were always sympathetic to the revolutionaries fighting the British empire. They belonged to the Bengali *bhadralok* class, of which many members were opposed to the British imperialism. According to Banerjee, it is an outcome of the anti-colonial attitude of Bose and Saha that they embraced quantum theory so readily. As far as my understanding goes, what I summarize in this paragraph is the main thesis of this book.

Raman, Bose and Saha left behind them a considerable body of writing giving their views on various subjects, apart from their scientific papers. It is worthy of noting that Banerjee has not offered even a single quotation from this vast corpus of their writings to indicate that Raman, Bose or Saha ever regarded wave theory of light as colonial and quantum theory as anti-colonial – although the book abounds

in quotations of all kinds. A historian of science can, of course, argue that scientists are often unconscious harbingers of change who do not fully realize the significance of their own works. Since Bose and Saha produced the first English translation of Einstein's papers on relativity, Banerjee has provided a detailed discussion about the reception of relativity in India (pp. 38-42). According to Banerjee, Cambridge physicists were unwilling to accept relativity (p. 41), which was readily hailed in Germany and then embraced by young Indian physicists with anti-colonial attitude. Banerjee does not mention the facts that it was a professor at Cambridge, Arthur Eddington, who carried on the famous eclipse expedition to verify general relativity and then championed this theory valiantly, whereas a group of German physicists denounced Einstein's work as Jewish physics.

While surveying the works of his predecessors in the introductory chapter, Banerjee provides a detailed summary of the works of those scholars who carried on studies of the *bhandralok* class along with those scholars who studied postcolonial theory and what Banerjee refers to as 'science studies in India'. I find it extremely odd that the scholars who had studied the lives and works of Raman, Bose and Saha – such as S.N. Sen, Santimay Chatterjee, G. Venkataraman, Rajinder Singh – are not mentioned at all in this discussion. Banerjee asserts repeatedly that Abha Sur is the only scholar of Indian origin whose writings on Indian scientists are non-hagiographic and dismisses all the other Indian scholars who have written on this subject as mere chroniclers of hagiography. I differ strongly from this viewpoint. G. Venkataraman wrote a monumental scientific biography of Raman and shorter studies of Bose and Saha. His analysis is fully objective and based on painstaking research. Venkataraman's penetrating study of the science of Raman, Bose and Saha unquestionably displays a much deeper appreciation of the nuances of physics compared to Banerjee's highly superficial writing on the science of these physicists. Not acknowledging Venkataraman's contributions in a book on this subject appears highly inappropriate.

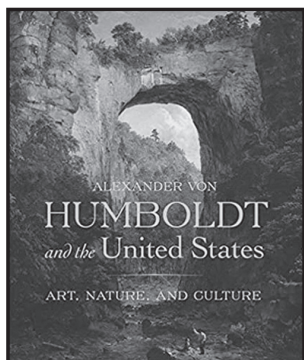
The book abounds in statements which are factually incorrect and cannot be taken as a matter of subjective personal opinion. For example, commenting on Raman's 'odd habit of wearing a headband', Banerjee makes the amazingly absurd assertion: 'In South India, people normally did not wear such headbands. Headbands, or turbans, as they are popularly called in India, are worn by people from the northern part, especially from the state of Punjab and parts of Rajasthan' (p. 81). I would merely urge Banerjee to search the internet for photographs of other South Indian scholars of that era such as Sarvepalli Radhakrishnan and M. Visvesvaraya. Among other lapses, the mathematical genius Srinivasa Ramanujan is referred to as 'A.K. Ramanujan' (p. 5). Another wrong statement is that Meghnad Saha was expelled from a school along with 'Nil Ratan Dhar' for participating in a protest rally (p. 117). The other student who was expelled with Saha was Nikhil Ranjan Sen. While N.R. Dhar and N.R. Sen may not be internationally well-known figures today, they played important roles in the growth of modern science in India and should

be known to a historian of modern Indian science. Banerjee's discussion in this context makes it clear that this was not a typographical error, but reflects the genuine ignorance on the author's part.

In spite of the problems with the main thesis of the book and many other flaws, I would still recommend the book for a cautious and critical reading. Readers without much knowledge of the historical background behind these three extraordinary physics discoveries made in colonial India may like to read the book as a compact historical account of this unusual era of Indian physics. However, since Banerjee's primary aim has been to argue that the physics of this era can be understood best by viewing it as *bhadralok* physics, many personalities and events of central importance are left out. It was the visionary Vice-Chancellor Asutosh Mookerjee who transformed Calcutta University from merely an organization for conducting examinations to an outstanding centre of learning with regular faculty and who basically handpicked Raman, Bose and Saha for the newly established physics department. Mookerjee is mentioned only tangentially in this book. Several scholars have argued that K.S. Krishnan, who was Raman's student and the co-discoverer of the Raman effect, should have got more credit for this discovery. Although the discovery of the Raman effect and its international reception had been discussed at some length, Krishnan is almost completely left out of this book except for cursory references.

Earlier studies of these extraordinary physicists of colonial India had gone largely unnoticed in the international history of science community. Now that a professionally trained historian of science has written a comprehensive book on them, we hope that it will arouse the interest of this community and will make the community aware of the importance of studying this hitherto neglected corner in the history of world science.

Arnab Rai Choudhuri
Department of Physics, Indian Institute of Science



Eleanor Jones Harvey, ed. *Alexander von Humboldt and the United States: Art, Nature and Culture*. Washington, D.C. Smithsonian American Art Museum, 2020, 448 pages, \$US75.00, ISBN:0691200807 and ISBN13:9780691200804. Also available online: <<https://www.americanheritage.com/humboldt-america>>

This cocktail table sized book is associated with

an exhibit of the same name held at the Smithsonian American Art Museum. The relationship of Alexander von Humboldt to American Science is discussed by Hans Dieter Sues in the preface. The next eight chapters explicate in detail the work of von Humboldt. Alexander and his brother Wilhelm early on had gained recognition for their work in geology and linguistics in Europe. In 1789 while enrolled at the University of Göttingen, Alexander met Georg Forster, one of the naturalists on Capt. James Cook's second exploration of the Pacific Ocean Basin. Forster must have infected Alexander with the travel bug, as during the next three years he and Forster travelled to the Netherlands, France and to England, where Humboldt struck up a friendship with Sir Joseph Banks who had travelled with Cook on his first expedition to the Pacific. Humboldt and Banks had joint interests in botanical matters and readily shared that knowledge. They remained friends until Banks' death in 1820.

Returning to Prussia, Alexander continued his education and graduated from the Freiburg School of mines. He then began travelling throughout Prussia successfully fulfilling the obligations of his position as a mine inspector. His desire to travel came to an apex when in 1799 he received permission from the Spanish crown to travel in the Spanish colonies in the New World. Earlier, Humboldt had met the physician and botanist, Aime Bonpland, who became his travelling companion. Humboldt and Bonpland left Europe on the 5th of June and after a brief stopover in Tenerife, arrived in Venezuela on the 16th July. During the next four years they visited the northern portion of the Amazon basin in Brazil, the Andes, Mexico and Cuba. While in Cuba, Humboldt decided to visit the United States, particularly wanting to talk to Thomas Jefferson who he admired because of Jefferson's interests in science. He and Bonpland spent six weeks in the United States, landing in Philadelphia, visiting New York City, and Washington, D.C., and because of his experiences in the US, Humboldt consider himself to half-American.

In structure, chapter one provides the details of this six-week visit. The remaining chapters relate Humboldt's work to his interests in maps (chapter 2), his understanding of wilderness (chapter 3), his role in European science (chapter 4), his positions on slavery, particularly as related to his time in the US (chapter 5), his contributions to ethnography (chapter 6), his impact on the painter, Frederic Edwin Church (chapter 7), and finally his impact on James Smithson (chapter 8). There are many works dealing with Alexander von Humboldt, most of which discuss his visit to the US. Laura Dassow Wall's 2011 book, *The Passage to Cosmos: Alexander von Humboldt and the Shaping of America*, attempts to resurrect Humboldt's position in the panoply of scientists, as she believes that after his 19th century prominence, he had been "left out of the discussion." Aaron Sach's, 2006 book, *The Humboldt Current: Nineteenth-Century Exploration and the Roots of American Environmentalism*, begins with a chapter on his visit to the US and then proceeds to relate Humboldt to a number of other scientists/explorers, including J.N. Reynolds, Clarence King, George Wallace Melville, and John Muir. Andrea Wulf's 2015 book, *The Invention of Nature*:

Alexander von Humboldt's New World, begins with his educational experiences in Prussia, particularly his relationship to Johann Wolfgang von Goethe, following that in section two of a discussion of his New World travels with one chapter detailing his visit with Thomas Jefferson. The third section of this book focuses on Humboldt's sorting out his American experiences. The fourth section examines his Russian trip, his impact on Darwin and on Henry David Thoreau. And finally, in the fifth section, relates Humboldt's ideas to those of George Perkin Marsh, Ernst Haeckel, and John Muir. In addition to these books, there a number of straight biographies, too many to mention any particular one.

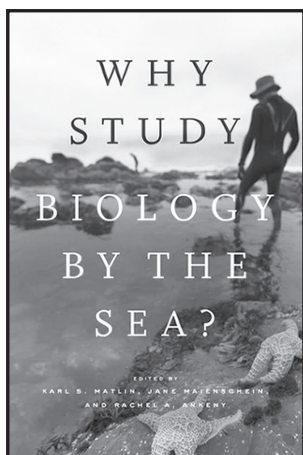
One thing that sets this book aside from all the above is the huge collection of images of two types, CATs (representing paintings in the exhibition) that typically take up a full page and Figures which normally occupy only a portion of a page. One would have to go to a number of institutions to see the originals of all the illustrations, but they are all here in this one volume. The drawback is the weight of the volume. This is not a lap-book, as it weighs around 6.1 lbs. Find a comfortable desk when reading it. Another negative attribute is the book's extreme repetition. I lost count of the number of times that Jefferson's volume *Notes on the State of Virginia: A Compilation of Data About the State's Natural Resources, Economy and the Nature of the Good Society* was discussed and the same was true of a number of other topics.

Because of my own interest in the exploration of the America West, I found the mapping chapter very worthwhile. Because the Lewis and Clark expedition was already underway, Humboldt's ideas of scientific exploration had no impact on that trip, but it did lead to interesting discussions with Jefferson, particularly since Humboldt's time in Mexico City and his analysis of information there, provided Jefferson with a better idea of what he had purchased with respect to the Louisiana Purchase. Harvey does relate Humboldt in detail to two other explorers, Stephen Harriman Long (the 1819-20 Yellowstone expedition) and John Charles Fremont (five expeditions: 1842, 1843, 1845, 1848, and 1853). Fremont served as the first senator from California and later ran for President of the US, an effort Humboldt supported because of Fremont's anti-slavery position. Although the discussion of these two men is enlightening, there were a number of other explorers in between them and William Goetzman's 1993 book, *Exploration and Empire: The Explorer and the Scientist in the Winning of the American West*, does a very thorough job of detailing those individuals.

Despite the weight and the repetition, I can highly recommend this book. The illustrations are gorgeous, and the insight provided by Harvey on each of the chapter topics is worth reading. She and the Smithsonian Institution are to be admired for putting together a show and book that brings Alexander von Humboldt back to life and provides insight as to why so many localities and institutions have his name in their titles (Humboldt State University, California; Humboldt River and sink, Nevada;

Humboldt County, California; Humboldt, Iowa) just to mention a few. She shows that Humboldt really is one of the most outstanding thinkers of our time.

Larry T. Spencer, Professor Emeritus of Biology
Plymouth State University



Karl S. Matlin, Jane Maienschein, and Rachel A. Ankeny, editors, *Why Study Biology by the Sea?* Chicago: University of Chicago Press, 2020, 344 pp. US\$45.00 ISBN 9780226672939

In 2016, a group of historians and philosophers of science gathered at the Marine Biological Laboratories in Woods Hole, Massachusetts, for a workshop which centered around a thematic question: “why Marine Studies?” The essays collected in this volume, a product of that workshop, set out to answer an even narrower question: “why study biology by the sea?” The authors of the twelve essays collectively validate marine institutions as uniquely innovative centers of scientific discovery.

In doing so, they also explore two recurring themes in the history of marine biology: the move from beach to laboratory bench and the development of institutions that facilitated this process; and secondly, the diversity and interdisciplinarity of scientific work conducted at marine institutions. This collection covers such diverse topics as: the development of marine stations in the United States, Europe, and East Asia; experimental research in light tropism, physiology, classification, ecology, and neuroscience; science education; coral reef research; and cell biology. The contributing authors include: Jane Maienschein, Christine Groeben, Christine Y. Lai Luk, Kjell David Ericson, Samantha Muka, Katharina Steiner, Kate Maccord, Kathryn Maxson Jones, Karl S. Matlin, Rachel A. Ankeny, Sabina Leonelli, Michael R. Dietrich, Nathan Crowe, Marianne A. Grant, William C. Aird, and Alejandro Sánchez Alvarado. Historians of science will find merit in all of these chapters; it is, however, impossible to discuss all of them in a short review. Instead, I want to point readers of the “Pacific Circle Bulletin” to two essays of particular interest for their coverage of the history of science in the Pacific region, exploring developments in marine biology in China and Japan. Until now, histories of the marine sciences (predominantly written in English) have chiefly surveyed scientific knowledge produced by European

and North American scientists, institutions and vessels. The two chapters focused on developments in the western Pacific therefore offer an important supplement to the global history of the marine sciences.

In “The First Marine Biological Station in Modern China: Amoy University and *Amphioxus*,” Christine Yi Lai Luk argues that local commercial interests (and scientific competition with Japan) partly explain the rise of marine biology in Republican China and the establishment of the marine biological laboratory at Amoy University (now Xiamen University) in the early 1930s. However, also of crucial importance, Luk argues, were the collaborative relationships established between biologists at Amoy and members of the American scientific community. The importance of Amoy to this international network was due the local abundance of “*amphioxus*” – a type of marine invertebrate.

Of the summer fieldwork at Amoy, Luk writes “these fisheries-cum-marine-biological surveys [...] highlighted the economic as well as the scientific value of *amphioxus* for the local fisherfolk and the transnational biological community” (p. 82). Though an important commercial species locally, *amphioxus* was also widely used as a scientific research organism in both Europe and the United States. International support for the collection of comparative *amphioxus* specimens at Amoy bolstered the need for an institutional setting for collaboration between Chinese and American researchers. Summer fieldwork collaborations helped Amoy gain access to international research funds through the Rockefeller Foundation and national funds through the China Foundation for the Promotion of Education and Culture.

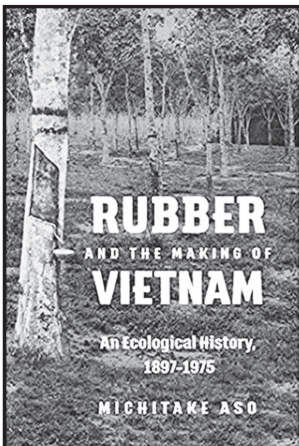
A second essay of special interest to scholars of the Pacific region is “The Misaki Marine Biological Station’s Dual Roles for Zoology and Fisheries, 1880s-1930s.” Author Kjell David Ericson offers a corrective to the history of the first marine biological station in Japan. Whereas scholars have previously highlighted the connection between the Misaki station and the rise of zoological studies in Japan, Ericson reveals the linkage between the station and Japanese fisheries concerns. By doing so, he shows how the evolution of the Misaki station parallels that of many other marine biological stations elsewhere at the turn of the 20th century. Though the origins of the Misaki station can be traced to the larger Euro-American station movement, a focus on fisheries science reveals Misaki as more than peripheral to trends in 19th century marine biology. The expanding Japanese empire encouraged deep-water marine surveys, and fisheries science provided an important pedagogical system for training students.

As a result, fisheries science moved as a field of study from the Misaki station to Japanese research universities, and even provided a pedagogical model for the first fisheries training program on the west coast of the United States at the University of Washington. As Ericson argues, “a Japanese marine station would be a place where zoological and fisheries work would not just coexist but also possibly be indistinguishable” (p. 92). The Misaki station provided a collaborative workspace for fisherman collectors and University of Tokyo biologists. Some of the zoology students who trained at Misaki went on to hold important positions in the Japanese

Imperial Fisheries Institute, and later in several more fisheries-dedicated stations during the interwar period, where they then helped promote North-Atlantic style oceanographic survey methods in Japanese waters in the early twentieth century.

Taken collectively, the essays in this edited collection offer a powerful argument for the importance of marine institutions as distinct from other types of higher education organizations. The reader gains greater appreciation for the historic role of these institutions in the development of modern biology, as well as of their continued importance as sites that facilitate inter-disciplinary collaboration and intellectual cross-pollination. In his “Epilogue”, Alejandro Sánchez Alvarado argues that the marine environment remains the most important asset of marine institutions. We are still at the cusp of our scientific understanding of the vast biodiversity contained within the world’s oceans. And if, as the history of marine institutions shows, a scientific understanding of rudimentary biological processes may be of crucial medical import, it is to marine institutions and to the scientific exploration of the oceans that we should continue to look for future discoveries that might well improve human life.

Antony Adler
Carleton College



Michitake Aso, *Rubber and the Making of Modern Vietnam: An Ecological History, 1897-1975*. Chapel Hill, University of North Carolina Press, 2018, xv+ 389 pages. US\$ 23.99 and ISBN 9781469637167 (e-book).

Rubber and the Making of Modern Vietnam begins with the following mise-en-scène. Alexandre Yersin – famed for his discovery of the plague bacillus in Hong Kong – also had a keen interest in agriculture. Yersin wanted his agricultural plot in Suối Dầu (on the outskirts of Nha Trang) to demonstrate the feasibility of cultivating rubber in French Indochina during the late 1890s. Several

decades later, the Vietnamese Communist Party (VCP) initiated *đổi mới*, or a process of renovation intended to address the hardships experienced by Vietnamese society since the end of the Vietnam War in 1975. At the time, rubber became an important component of nation-building in Vietnam. As Michitake Aso outlines

in the introduction, *Rubber and the Making of Modern Vietnam* explores the entanglement between science, commerce, colonialism, and decolonization in colonial and postcolonial Vietnam respectively. Aso argues that plantations were key sites for testing and implementation of different arrangements of power from imperial domination to anti-colonial resistance, to nation-building programs. Almost every colonial power and postcolonial state in Southeast Asia was involved in the rubber industry. Violence was an integral part of the plantation experience. Rubber plantation workers were not passive victims of French colonial empire as most were able to employ weapons of the weak amid the daily brutality of the plantation regimes (p.8).

Interdisciplinary in its scope, the monograph is at once an ecological, social, and political history of Vietnam. The monograph is divided into three parts. The empirically dense chapters in part I collectively explore the introduction of *hevea brasiliensis* (rubber tree) to French Indochina, the emergence of plantation environments, the associated Vietnamese migration to meet plantations' demand for labor, the ecological impact of migration, and the institutionalization of plantation medicine. The overarching thesis of part II is that if plantations were microcosms of the global colonial society, they were also laboratories where solutions to colonial problems were worked out. Government officials, planters, and scientists sought to govern human diseases and human bodies through internal frontiers of race, on and off the plantations, which did not simply draw on pre-existing environmental and social conditions but reworked them as well (p. 166). Whereas plantation managers created racial and ethnic divisions to exploit social tensions, biomedical doctors helped inscribe race into colonial disease environments through their application of industrial hygiene on plantations. Part III focuses on the violent transition from French colonial empire to nation-building between 1945 and 1975. During the First Indochina War (1946-54), plantation environments became battlefields as many plantation workers instigated by the anti-colonial Việt Minh attacked rubber trees as vestiges of colonialism. Part III highlights the paradox that despite their colonial origins, plantation environments were important material and symbolic landscapes for those aspiring to build postcolonial Vietnamese nations (p. 17).

In a nuanced conclusion, Aso argues that plantations served as experimental sites for the European powers and helped transform agricultural practices and theories. The colonial enclaves served as foci for agronomists and medical researchers, colonial officials, social activists and bureaucrats that helped bring postcolonial nation-building projects. As rubber knowledge became an object of sharing, competition and modeling across colonial empires in Southeast Asia, it helped create the material and mental networks that gave substance to that region (pp. 284-5).

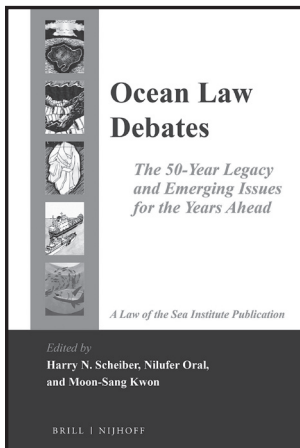
Eclectic in the use of archival materials, biographies, and oral history, Aso's major contribution to the discipline of Science and Technology Studies (STS) is the imprint of rubber plantations on colonial medicine.¹ Aso skilfully connects the history of rubber in French Indochina and Vietnam to larger political concerns such

as decolonization and the Cold War. Because the monograph's overarching theme – as indicated by the title – is the ecological history of rubber, the ecological disasters on the rubber plantations resulting from the spraying of the defoliant Agent Orange during the Vietnam War merit further historical investigation. No discussion on the history of malaria in Vietnam is complete without assessing the Việt Minh's anti-American propaganda (1962) which stated to the effect that the use of anti-malarial insecticide DDT ("American DDT spray") killed the cats that ate the rats that devoured the crops.² The propaganda against DDT was used successfully by the Việt Minh to account for the explosion of rat population during the early 1960s. Nevertheless, the monograph is central for STS scholars for understanding the appropriation and transformation of ecological terminologies in colonial and postcolonial contexts.

Vivek Neelakantan
Independent Historian

¹ For other studies documenting the history of plantation medicine in Southeast Asia, see for e.g., Lenore Manderson, *Sickness and the State: Health and Illness in Colonial Malaya* (Cambridge: Cambridge University Press, 1996). Also refer Eric Stein, "Power, Public Health, and Memory in Rural Java," PhD Thesis (University of Michigan, 2005).

² Patrick O'Shaughnessy, "Parachuting Cats and Crushed Eggs: The Controversy over the Use of DDT to Control Malaria," *American Journal of Public Health* 98, no. 11 (2008): 1940-48.



Harry N. Scheiber, Nilufer Oral, and Moon-Sang Kwon, eds., ***Ocean Law Debates: The 50-Year Legacy and Emerging Issues for the Years Ahead***. Leiden and Boston: Brill-Nijhoff, 2018. 570 pp. Tables, illustrations, and index. ISBN 9789004343139 Cloth US\$238.00.

This book marks the fiftieth anniversary of the Law of the Sea Institute's original round of conference papers, gathered and published as *Law of the Sea: Offshore Boundaries and Zones* (Ohio State University Press, 1967), and edited by Lewis M. Alexander. In a clear and useful introduction, Harry N. Scheiber charts the movement of the Institute (LOSI) from the University of Rhode Island to the University of Hawai'i at Mānoa and then to the University of California, Berkeley, where the anniversary conference

was held in 2015. Indeed, in addition to the in-depth surveys of specific issues in law of the sea jurisprudence and international politics, what the essays and footnotes in the volume amount to is a kind of self-conscious intellectual history of these issues and questions over the past fifty years.

Scheiber, himself of course a distinguished scholar of the law of the sea and its modern history, argues for a strong understanding of the role that the Institute has played in the history of maritime jurisprudence. The initial meetings of at LOSI, he argues, “may now be seen as having played a key role in the revival of global discourse, contributing to the decision by the UN to convene the conferences that culminated in the agreement in 1982 on the UN Convention of the Law of the Sea (UNCLOS), providing a constitution-type framework for the ongoing development of ocean law down to the present day” (p. 2). The claim is a strong one, but hardly implausible, and it is important to note the claim is not that UNCLOS is the product of LOSI’s deliberations, but that the manner in which LOSI carries out its deliberations gives a specifically deliberative form to UNCLOS. That influence, whatever its degree, serves as a kind of shaping narrative framework for the volume, tracing as the respective essays do a series of mostly formal negotiations over the course of the twentieth century, and looking forward, albeit lightly, to the complex deliberative work of the future. Indeed, as Scheiber argues in conclusion to his introduction, which precedes his rich and uniquely lengthy first chapter, what we have here is evidence that the “adequacy of past solutions, as revealed in a half-century of ocean law history, together with the realistic possibilities for the creative resolution of current challenges” and this can safely be taken, so the argument goes, as the baseline reality confronting ocean law and policy in the twenty first century.

Sherry Broder’s chapter focuses on the law of the seabed, and on potential conflicts on the horizon between claims for seabed mining grounds and the nature of Exclusive Economic Zones. Clive Schofield gives a history of maritime boundaries and their relative uncertainty, and chapters by Craig Allen on the work of William T. Burke’s scholarship and by John Briscoe on Lewis M. Alexander are deep dives on the legal and intellectual history of the scholarship at LOSI. James Kraska of the Naval War College centers great power concern for maintaining the freedom of navigation, an age-old nexus of empire and commerce in oceanic history to be sure, and Willy Østreng examines the surprising influence that small nations play in law of the sea negotiations, focusing on Norway and a familiar dichotomy between hard and soft power in the international arena that here gets cast in a new and complicating light. Chapters from Jin-Hyun Paik and Bernard Oxman examine judicial and diplomatic conflicts and processes in the existing system. Ronán Long examines marine resource policy in the European Union, focusing on ecological impact on the continental level rather than the politics of member states and conflicts over fishery management. Nifuler Foral connects the histories of freedom of the seas and legal pluralism to issues of biodiversity and ecological protection, while Kristen Gjerde surveys the

issues and debates behind proposals for international adjudication of biodiversity protection. Robin Warner and David VanderZwaag look at these issues to specific contexts, the open Pacific and Arctic, respectively. Su Jin Park examines biodiversity in the form marine genetic resources and the need for law and policy outlining how such resources might be shared. Kathryn Mengerink looks at legal responsibilities and potential liability for seabed mining outfits, calling for specific understandings of what constitutes damage or harm in these contexts. Daniel Bodansky looks at challenges posed by climate change in general and by issues of greenhouse regulation beyond national jurisdictions specifically, while Anastasia Telesetsky, Seokwoo Lee, and Hee Eun Lee look at modern disputes over whaling and how jurisdictional uncertainty in that arena can spread to others, like bluefin tuna. David Caron and Stephen Minas look at the potential use, and misuse, of declared Marine Protected Areas by sovereign states to expand legal and military control into formerly open waters. The South China Sea is the obvious and fitting example.

Threats of climate change, a dramatically transformed and rising ocean, and great power conflict haunt any serious discussion of these issues and questions. Marx famously said that the tradition of the past weighs like a nightmare on the brains of the living, but this volume wrestles, similarly – albeit obliquely – with the weight of the future. The adequacy of existing institutional arrangements will certainly be the subject of much more deliberation before too long, and the collection will remain a critical resource as we watch the tides of history roll in.

Matthew Crow

History and Law and Society, Hobart and William Smith Colleges

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Bulletin of the Pacific Circle is the official publication of the Pacific Circle, organized in 1985 to promote and assist scholarship in the practice, history and social studies of Pacific science. The Circle is a commission of the International Union of the History and Philosophy of Science.

The ***Bulletin*** is distributed twice a year with the assistance of the Department of History, University of Hawai‘i-Mānoa.

Membership in the Circle, which includes the ***Bulletin***, is available at a cost of US\$25 per year for individuals and US\$35 for institutions. Additional contributions in any amount to support the costs of production and distribution will be gratefully accepted and can be made online. Subscriptions cannot be processed online.

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Prof. Peter H. Hoffenberg
Editor, *Bulletin of the Pacific Circle*
Department of History, Sakamaki Hall
University of Hawai'i
Honolulu, Hawai'i 96822 USA

Phone: (808) 956-7675 • Fax: (808) 956-9600

Email: peterh@hawaii.edu

Web Site: <http://thepacificcircle.com>

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