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# In Memoriam: Ignacio Ribera (1963–2020)

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Ignacio Ribera Galán (Figs 1, 2) has left us after a long illness on April 15, 2020. Ignacio, or Nacho, as many friends and colleagues called him, dedicated his research life to aquatic and subterranean beetles, in particular tackling evolutionary biology questions from the point of view of systematics, ecology, and biogeography.

He was thus a rare type of entomologist, who gained great respect not only for his taxonomic expertise and achievements, but also for using the animals he loved the most to test many major hypotheses of evolutionary biology and to formulate new ones. While his studies were often concentrated on the Mediterranean region (e.g., Ribera et al. 1998), he also performed taxonomic revisions and described new species from South America, the Arabian Peninsula, Guinea, and the Pacific Islands; he worked on various beetle families such as Carabidae, Dysticidae, Elmidae, Hydraenidae, Hygrobiidae, Hydrochidae, Leiodidae, Limnichidae, Malachiidae, Ptiliidae, Scirtidae and Staphylinidae.

Arising from a profound interest in Mediterranean coleopteran diversity, Ignacio studied the ecological restrictions of aquatic beetles and the implications for speciation rates and biodiversity conservation in the region (Ribera et al. 2001b, 2003a). Later, he wrote the chapter on habitat constraints

in freshwater macroinvertebrate diversity in the seminal book *Aquatic Insects: Challenges to Populations* (Ribera 2008).

Ignacio's contributions to the field of insect systematics are varied and remarkable. For more than a decade, together with Carles Hernando, Ignacio made significant contributions on the family Limnichidae, including authoring different versions of the Limnichidae chapters in the *Handbook of Zoology* (Hernando & Ribera 2005a, 2016a), *Catalogue of Palearctic Coleoptera* (Hernando & Ribera 2006, 2016b), and *Water Beetles of New Caledonia* (Hernando & Ribera 2010). Aside from describing many new limnichid beetle species, he erected the genera *Geolimnichus*, *Pseudobryptus*, *Tricholimnichus*, and the extinct genus *Palaeoersachus* from Baltic amber (Hernando & Ribera 2001, 2003, 2005b, Pütz et al. 2004). Aside from his voluminous work on Limnichidae, together with Rolf Beutel and the second author he erected the adephagan family Aspdytidae (Balke et al. 2003), and wrote the chapter on the family in the *Guides to the Freshwater Invertebrates of Southern Africa* (Ribera & Bilton 2009); he also co-authored several editions of the chapter on Adephaga in the *Handbook of Zoology* (Beutel & Ribera 2005, 2016, Beutel et al. 2010) and the chapter on Coleoptera in *The Tree of Life* (Ribera & Beutel 2014).



**Fig. 1.** Ignacio Ribera (1963–2020). Photograph by Arnaud Faille.

Ignacio was also a recognized specialist in the molecular exploration of beetle evolution. He was part of a large collaborative effort to elucidate a comprehensive coleopteran phylogeny which gave insights on the super-radiation of insects (Hunt et al. 2007). Particular questions of interest to him were regional phylogenies of diving beetles (e.g., Ribera et al. 2001a, 2003b, Balke et al. 2007, Ribera & Faille 2010, Millán et al. 2013) and ground beetles (e.g., Faille et al. 2010, 2011, 2013), tracing the adaptations of insects to hypersaline environments (e.g., Arribas et al. 2014, Pallarés et al. 2017, Villastrigo et al. 2018) and investigating the rather wide distribution of the poorly dispersed lineages (e.g., Garcia-Vásquez & Ribera 2016, Sánchez-Fernández et al. 2016). Ignacio also contributed substantially to the volume of works evaluating COX1 and protein expression as bases for delineating and barcoding of insect species (e.g., Pons et al. 2010, Hidalgo-Galiana et al. 2016) and formulated very stimulating concepts on the evolutionary drivers of, and consequences for, lentic versus lotic insect communities (Ribera & Vogler 2000, Arribas et al. 2012, Lam et al., 2018).

Aside from his copious work on aquatic beetles, Ignacio was also deeply interested in morphological and physiological evolutionary convergence in cave coleopteran fauna. By using morphological, physiological,



**Fig. 2.** Ignacio during field work. Photograph by Arnaud Faille. Downloaded from Brill.com01/08/2021 12:04:21PM by hfreitag@ateneo.edu via Prof Freitag



and molecular data, he took part in tracing the origin of cave beetles in the Pyrenees back into the Late Miocene (Faille et al. 2010, 2014, Rizzo et al. 2013). He appeared in the “Evolució, rere els passos de Darwin” (“Evolution, following in Darwin’s footsteps”) episode of the programme *Quèquicom* to discuss his findings on cave beetles. Last year, he and Javier Fresneda published a summary of the subterranean fauna in the Pyrenees and Iberian Peninsula (Fresneda & Ribera 2019).

Ignacio received his PhD in Biology from the Universitat de Barcelona in 1992 with his study on the diversity, morphology, and ecology of Hydradephaga of the Pyrenees (Ribera 1992). Soon after, he joined the Scottish Agricultural College where he studied ecological models of spider populations and the impact of land use on plant diversity in Scottish agricultural lands. In the late 1990s, he worked at the Imperial College and the Department of Entomology of the Natural History Museum, London where he was one of the pioneers in molecular phylogenetics of beetles. In 2003, he moved back to Spain to join the Departamento de Biodiversidad y Biología Evolutiva of the Museo Nacional de Ciencias Naturales in Madrid. More than a decade ago, he joined Institut de Biología Evolutiva (IBE) of the Consejo Superior de Investigaciones Científicas-Universitat Pompeu Fabra (CSIC-UPF) in Barcelona where he headed several projects of the Water and Cave Beetle Evolution Lab and worked energetically, despite severe health problems.

More than all his discoveries, countless publications, and involvement in scientific circles, Ignacio will be remembered by all of those who had the honour to know him, and in particular his fellow entomologists, as a nurturing mentor and caring friend. He will be remembered as a lab head who provided growth opportunities for his students; who asked after them when joining them for lunch; and as a senior researcher who motivated budding scientists to pursue their field and as a mentor who extended his kind assistance to them.

Given his untimely passing amid the pandemic, his colleagues at IBE dedicated a round of applause for the remarkable life Ignacio lived. While his friends were not able to join his immediate family for the funeral service due to the imposed health measures, Ignacio will be very fondly remembered and missed, not only for his contributions to the field, but for his very good-hearted nature.

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