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CHEMOECOLOGY

EDITORIAL

Chemoecology: time for a meta-analysis

Günther Raspotnig[1] · Marko Rohlfs[2]

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It has been four years now, since we took over the editorship of *Chemoecology*. In an initial editorial in February 2019 (Raspotnig and Rohlfs 2019) we confirmed to support a modern concept of *Chemoecology*, welcoming contributions to novel approaches in all fields of chemical–ecological research, including methodological papers and such focusing on the elucidation of exocrine natural products.

Since 2019, about 315 manuscripts have been submitted to *Chemoecology*. The average acceptance rate per year was about 34.5%, leading to four volumes with a total of 109 published articles (Vol. 29: 22 articles; Vol. 30: 30 articles; Vol. 31: 38 articles; Vol. 32: 19 articles). Beginning with six issues per year and four articles per issue (as in Vol. 29) we stayed abreast of changes in the number of submissions and consequently raised the number of articles per issue, and, from August 2020 on, six-article issues were published (Vols. 30 and 31). In 2022 (Vol. 32), temporarily facing a decline in the number of manuscript submissions, we returned to four-article issues.

The articles published in the period 2019–2022 covered a variety of topics, ranging from plant–insect interactions to vertebrate scents and venoms, from gene regulation of pheromone production to the mechanisms of pheromone perception, and from chemosystematic papers to ecology-focused studies on biogeochemistry and the content of secondary compounds in plants related to leaf flammability. An approach to a more detailed classification of published articles led to the following picture: we chose a (though very subjective) classification of article-topics into nine categories, namely ecology, evolution, chemosystematics, behaviour and physiology (including sequestration), novel compounds and their identification, methods, allelopathy and attraction, reviews, and a miscellaneous category. We then tried to categorize published articles according to their main direction. About 25% of articles dealt with various aspects of plant allelopathy and attraction by VOCs and kairomones/pheromones (27 articles). Additional 25% of articles focused on physiological and behavioral themes, including sequestration of (toxic) compounds and molecular/genetic aspects of the regulation of exocrine production (27 articles); 17% were on ecology (18 articles), 7% (eight articles) on chemotaxonomy, about 5% (six articles) on novel compounds, 3% on methods in chemical ecology, and only 2% focused on evolution. We also published two reviews (about 2% of articles). Thirteen articles (12%) were not classified ("miscellaneous")—these included editorials, corrections, theoretical articles, and replies.

Though not always clearly separable from applied contributions, 2/3 of published articles (= 69 papers out of 105; editorials and corrections not counted) were classified as mainly basic research-oriented papers. While we still understand "Chemoecology" as a basic research-oriented journal, there was a noticeable increase in submissions covering applied topics, mainly targeting on the control of arthropod pests by semiochemicals as well as various applied aspects of plant allelopathy. On the other hand, "classic" chemo-ecological papers—in the sense of Thomas Eisner, the grandmaster of chemoecology—have become rare: only a few articles dealt with chemo-ecological topics in a comprehensive manner. Nevertheless, in our opinion, basic research-oriented papers still represent the backbone of *Chemoecology*, and we aim to support and preferentially publish basic research papers in the next years.

✉ Günther Raspotnig
guenther.raspotnig@uni-graz.at

✉ Marko Rohlfs
rohlfs1@uni-bremen.de

[1] Institute of Biology, University of Graz, Graz, Austria

[2] Institute of Ecology, University of Bremen, Bremen, Germany

Reference

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