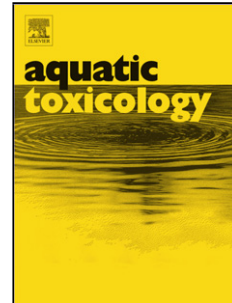


Accepted Manuscript

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PII: S0166-445X(18)30704-5
DOI: <https://doi.org/10.1016/j.aquatox.2018.09.004>
Reference: AQTOX 5020

To appear in: *Aquatic Toxicology*

Received date: 2-8-2018
Revised date: 31-8-2018
Accepted date: 9-9-2018

Please cite this article as: Rico A, Arenas-Sánchez A, Pasqualini J, García-Astillero A, Cherta L, Nozal L, Vighi M, Effects of imidacloprid and a neonicotinoid mixture on aquatic invertebrate communities under Mediterranean conditions, *Aquatic Toxicology* (2018), <https://doi.org/10.1016/j.aquatox.2018.09.004>

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Effects of imidacloprid and a neonicotinoid mixture on aquatic invertebrate communities under Mediterranean conditions

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15 Highlights

- 16 • Effects of imidacloprid and a neonicotinoid mixture assessed in freshwater
17 mesocosms.
- 18 • NOECs < 0.2 µg/L for Cyclopoida, *Cloeon dipterum* and Chironomini.
- 19 • Threshold concentrations derived for Mediterranean aquatic ecosystems.
- 20 • The concentration addition model can be used to assess the risks of neonicotinoid
21 mixtures.
- 22 • The ms-PAF approach accurately predicts effects under semi-field conditions.

23 **Abstract**

24 Neonicotinoid insecticides are considered contaminants of concern due to their high
25 toxicity potential to non-target terrestrial and aquatic organisms. In this study we
26 evaluated the sensitivity of aquatic invertebrates to a single application of imidacloprid
27 and an equimolar mixture of five neonicotinoids (imidacloprid, acetamiprid, thiacloprid,
28 thiamethoxam, clothianidin) using mesocosms under Mediterranean conditions.

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