

**Proceedings of the  
6<sup>th</sup> European Bois noir workshop  
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**Towards the Prophylactic and Agroecological Control of grapevine yellows**

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## A plea for using the correct taxon names of phytoplasma vectors: a case of *Reptalus artemisiae*, a vector of 'Candidatus Phytoplasma solani'

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### INTRODUCTION

The planthopper *Reptalus artemisiae* (Becker, 1865) (Hemiptera: Cixiidae) is an emerging vector of 'Ca. Phytoplasma solani', and a well studied species for nearly two decades for its tentative, and later proven, vector role in phytoplasma transmission (Trivellone et al., 2005; Chuche et al., 2016). However, until recently, there was a misidentification of this taxon, leading to the incorrect nomenclature of *Reptalus quinquecostatus* (Dufour, 1833) (Webb et al., 2013), which is actually the name of another cixiidae species, previously known as *Reptalus melanochaetus* (Fieber, 1872) and now considered as its junior synonym. The case of misidentification was presented and documented in detail by Webb and coauthors (2013), while the question of naming *Reptalus quinquecostatus sensu* Fieber was resolved by Emeljanov (2020), who made the necessary nomenclatural changes. The changes were made following the International Code of Zoological Nomenclature, Article 70.3. We present here an overview of the (in)correct use of the taxon names for the two species in the last three years since the changes were made and make a plea for using the correct taxon names.

### MATERIALS AND METHODS

To find how many times the taxon names *R. artemisiae* and *R. quinquecostatus* were used in scientific literature since the nomenclatorial changes were made (Emeljanov, 2020) we performed a Google Scholar search on 20 March 2024 for the terms which included species names with full and abbreviated genus. We imposed date limits on the search to include results from 2021 to 2024. Then we filtered the results, i.e., we checked each reference from the list if the use of the taxon names was done in correct manner or not, or if the use of name was a consequence of citation in the literature or phytoplasma strain designation. In the latter two cases, the use of the name was treated as correct.



#### Taxon

**Correct name** *Reptalus artemisiae* (Becker, 1865)  
*Flata artemisiae* Becker, 1865

*Reptalus quinquecostatus* (Dufour, 1833)  
*Cixius quinquecostatus* Dufour, 1833

**Synonyms** = *Reptalus quinquecostatus* (Fieber, 1872)  
= *Oliarus quinquecostatus* Fieber, 1872

= *Reptalus melanochaetus* (Fieber, 1872)  
= *Oliarus melanochaetus* Fieber, 1872

**Non-synonym** *Reptalus quinquecostatus* (Dufour, 1833)

## RESULTS AND DISCUSSION

The search returned a total of five separate results for the use of the name '*Reptalus artemisiae*' and more than 70 for '*Reptalus quinquecostatus*', which, after manual filtration, resulted in 36 distinct results, i.e., publications. For the purpose of avoiding "negative citations", we are referring in the reference list only to publications that used the taxon names correctly. In total, correct use of the taxon name *R. artemisiae* was in all five publications (Quaglino et al., 2021; Pierro et al., 2022; 2024; Moussa et al., 2023; Jović & Toševski, 2023), while *R. quinquecostatus* as the correct taxon name was used in only two publications (Bucher et al., 2023; Jović & Toševski, 2023). In addition, 13 more publications were referring to the name *R. quinquecostatus* correctly, but this was not used as a taxon name but as a citation or phytoplasma strain designation. However, it is worrying that in only three years after the nomenclatorial changes in the genus *Reptalus* were made (Emeljanov, 2020), a total of 21 publications used the taxon name *R. quinquecostatus* incorrectly. The vast majority of these publications (70%) covered studies on the epidemiology of '*Ca. Phytoplasma solani*' or the vector role of the cixiid planthopper. This is the main reason why we make a plea to the scientific community of researchers working on phytoplasma epidemiology and on the diversity and vector role of cixiids to provide correct taxon names in their studies. The reason for the high number of cases of incorrect use of the taxon name *R. quinquecostatus* is because the taxon *R. artemisiae* is an emerging pest with an important role as a vector of '*Ca. Phytoplasma solani*', which makes the situation even more worrying. We hope that this plea, alongside the two publications explaining the misidentification of the two taxa in question (Webb et al., 2013; Emeljanov, 2020), will raise awareness of the importance of providing correct taxon names to avoid any future confusion, which could have negative implications, especially in the case of economically important species.

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