

Adam STROIŃSKI & Thierry BOURGOIN. – **On the taxonomic position of *Pochazia shantungensis* (Chou & Lu, 1977) (Hemiptera, Fulgoromorpha, Ricaniidae)**

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**Abstract.** – The taxonomic placement of *Pochazia shantungensis* (Chou & Lu, 1977) is briefly summarized and the name of the taxon is confirmed. *Ricania sublimata* Jacobi, 1915 is transferred in the same genus, as *Pochazia sublimata* (Jacobi, 1915) n. comb.

**Résumé.** – **Sur la position taxonomique de *Pochazia shantungensis* (Chou & Lu, 1977) (Hemiptera, Fulgoromorpha, Ricaniidae).** La position taxonomique de *Pochazia shantungensis* (Chou & Lu, 1977) est brièvement résumée et le nom du taxon est confirmé. *Ricania sublimata* Jacobi, 1915, est transférée dans ce même genre, comme *Pochazia sublimata* (Jacobi, 1915), n. comb.

**Keywords.** – Taxonomy, new combination, invasive species.

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Recently, a new invasive ricaniid species in Europe (Hemiptera, Fulgoromorpha, Ricaniidae), was recorded under two different names: *Ricania shantungensis* Chou & Lu, 1977, from Turkey (HIZAL *et al.*, 2019) and *Pochazia shantungensis* (Chou & Lu, 1977) from France (BOURGOIN *et al.*, 2020) and Germany (SCHRADER, 2021), and also reported now from Italy (STROIŃSKI *et al.*, 2022). The species is polyphagous on numerous plants (KIM *et al.*, 2015 ; HIZAL *et al.*, 2019) and is an important pest in Korea where two generations per year have been observed (SHEN *et al.*, 2007). It is considered as a potential pest in Europe and the European and Mediterranean Plant Protection Organization (EPPO) has recently given an alert following its first reports in the region ([https://www.eppo.int/ACTIVITIES/plant\\_quarantine/alert\\_list\\_insects/pochazia\\_shantungensis](https://www.eppo.int/ACTIVITIES/plant_quarantine/alert_list_insects/pochazia_shantungensis)). On its side, the European Food Safety Authority (EFSA) also planned to perform a risk assessment on this pest following its recent identification in dossiers received to support demands for import of high-risk plants in the EU.

However, the taxon carries several nomenclatorial problems, not only related to its genus placement but also its specific name. It appears therefore important to stabilize, as much as possible, the taxonomic position of *Pochazia shantungensis* which has been debated for the last two years. The aim of this short taxonomic note is to provide a provisional answer to this question, pending to a more complete and necessary taxonomic revision of the full group of species to which the species belongs.

## HISTORICAL REVIEW

In 1977, CHOU & LU described a new species from China under the name *Ricania shantungensis* Chou & Lu, 1977, and compared it to *Ricania sublimata* Jacobi, 1915 (JACOBI, 1915).

RAHMAN *et al.* (2012) first transferred *R. shantungensis* from the genus *Ricania* Germar, 1818, to *Pochazia* Amyot & Audinet-Serville 1843, following the Fulgoromorpha Lists On the Web (FLOW database, <http://www.hemiptera-databases.org/flow/>) (BOURGOIN, 2022), while no explanation was provided for this transfer.

KWON *et al.* (2017), based on molecular analysis with two sets of nuclear and mitochondrial markers, accommodated the species in the genus *Ricania*. They used the following species for comparisons: *Pochazia confusa* Distant, 1906, *P. guttifera* Walker, 1851, *Euricania ocellus* (Walker, 1851), *Ricania marginalis* (Walker, 1851) and *R. simulans* (Walker, 1851).

This year, ZHANG *et al.* (2022), based on complete mitochondrial genome, placed this species in the genus *Pochazia*. They used the following species for comparisons: *Pochazia confusa*

Distant, 1906, *P. discreta* Melichar, 1898, *P. guttifer* Walker, 1851, *Ricania fumosa* (Walker, 1851), *R. marginalis* (Walker, 1851), *R. simulans* (Walker, 1851) and *R. speculum* (Walker, 1851).

## DISCUSSION

The genera *Ricania* and *Pochazia* are the most numerous within the family Ricaniidae Amyot & Audinet-Serville, 1843 (*Ricania* 82 spp., *Pochazia* 44 spp.). However, the morphological definition and species composition of both genera remain definitively unclear, as well as are the results of molecular analyses: both genera confirm that they are non-monophyletic groups (ZHANG *et al.*, 2022). Clearly, new groups/genera will have to be established to better consider the closest affinities of all these taxa.

Based on preliminary comparative morphological analyses (Stroiński, pers. comm.) and on the results of the molecular analysis of ZHANG *et al.* (2022), we thus maintain at this stage *P. shantungensis* in the genus *Pochazia*. Additionally, *Ricania sublimata*, a species very closely related to *P. shantungensis* by various morphological character states, particularly of the male genitalia of the periandrium (basal part extended, lateral split short) and the aedeagus (with three processes), and of the female genitalia (posterior margin of the pregenital sternite medially with process), should also be placed into the genus *Pochazia*. Unfortunately, the range of variability of both species, their similar general habitus without good external diagnostic characters, the impossibility at this stage to examine the type specimens, (*P. shantungensis* is known only from single female, *P. sublimata* from both sexes), and the absence of published reliable diagnostic characters allowing to clearly differentiate the two species, raise also the question of their possible synonymy. This issue cannot be solved at this stage, and a more in-depth morphological and molecular studies of the related species in these two genera are deeply necessary.

Accordingly, the taxonomic position of these taxa should be summarized as follow.

### *Pochazia sublimata* (Jacobi, 1915), n. comb.

*Ricania sublimata* Jacobi, 1915: 303; LIU & ZHANG, 2001: 39; LIU *et al.*, 2007: 57.

*Ricania (Ricanula) sublimata*; MELICHAR, 1923: 130.

*Ricania sublimbata*; KATO, 1933: 7 (wrong spelling).

*Ricanula sublimata*; METCALF, 1955: 101; YANG, 1989: 195.

### *Pochazia shantungensis* (Chou & Lu, 1977)

*Ricania shantungensis* Chou & Lu, 1977: 315; CHOU *et al.*, 1985: 82; SHEN *et al.*, 2007: 116; KWON *et al.*, 2017: 901; HIZAL *et al.*, 2019: 9816; KANG *et al.*, 2020: 3813.

*Pochazia shantungensis*; RAHMAN *et al.*, 2012: 243; KIM *et al.*, 2015; BOURGOIN *et al.*, 2020: 271; SCHRADER, 2021; ZHANG *et al.*, 2022: 3.

In France, *Pochazia shantungensis* has now been collected occasionally since 2018, in mid-autumn in Cagnes: October 2019, November 2018, 2019. This year, it was collected much earlier for the first time, in June 2022. It is very likely that this population is now permanent, and that the species has definitely entered the French fauna. It appears necessary that close monitoring of this new polyphagous invasive alien species must now be implemented.

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