

Classification of the jumping plant-louse genus *Calophya* Röw belonging to the family Calophyidae from Korea (Homoptera: Psylloidea)

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Abstract

Hitherto, 7 species belonging to the genus *Calophya* Röw, 1879 have been known in Korean fauna. As the continuous taxonomic survey on the jumping plant-lice in Korean peninsula since the recent completion of the monograph on the Korean Psylloidea (Kwon & Kwon, 2020), the authors have found a further new species from eastern mountainous region in Central Korea: *Calophya yunuuae* sp. nov. The invalid species, *Calophya phellodendricola* Cho, 2019 nom. nud. is placed to the synonymy of *C. phellodendri* Loginova, 1976. Thus, all together 8 species of this genus are listed in the inventory of Korean Homoptera. Description and illustration of morphological features of the new species and key to the Korean species of the genus are provided respectively.

Key words: Hemiptera, Sternorrhyncha, Calophyinae, taxonomy, identification, new species.

Introduction

The jumping plant-lice of the genus *Calophya* Röw belonging to the subfamily Calophyinae Vondracek can be recognized apparently by having the following microscopic external charcters: antenna short, scarcely exceeding width of head including eyes; distal segments often knotty, with 2 long apical setae. Forewing with cell cu1 strikingly larger and higher in size than m2.

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Systematics

Family CALOPHYINAE Vondracek, 1957

Subfamily CALOPHYINAE Vondracek, 1957

Genus *Calophya* Löw, 1879

Type-species: *Psylla rhois* Löw, 1877

Type-locality: Austria.

Diagnosis: Head about as wide as thorax, somewhat vertical. Vertex usually wider than long. Genal cones short conical or flattened dorso-ventrally, or rarely reduced to only broadly produced margins of genae. Antennae short, scarcely exceeding width of head including eyes; distal segments often knotty, with 2 long apical setae.

Forewings with cell cu1 strikingly larger and higher in size than m2. Hindtibiae armed with 4-5 saltatorial spurs at apex; basitarsi without saltatorial spurs. Male proctiger tubular, without posterior process. Parameres shorter than proctiger, usually narrowed to apex. Aedeagus with distal segment somewhat flat and broad laterally.

Key to species of the genus *Calophya* from Korea

1. Genal cone short vertical, or shorter than half as long as median length of vertex. Hindwing with a short common vein before junction of M and Cu ----- 2.
- Genal cone not vertical, more or less conical, moderately slender, distinctly longer than half as long as median length of vertex. Hindwing without short common vein before junction of M and Cu ----- 5.
2. Genal cone very short and broadly flat, roundly terminated apically; outer margin broadly convex ----- *C. verticornis*
- Genal cone strikingly divergent, with apex acute and directed outwards; outer margin concave distally ----- 3.
3. Head and thorax orange to reddish brown, often with light brown markings on venter. Female proctiger slightly shorter than wide (ratio, 0.9:1); anus about 3/4 as long as remainder of proctiger ----- *C. rhois*
- Head and thorax dark brown to black on dorsum, yellow to light brown on venter. Female proctiger slightly longer than wide (ratio, 1.1:1); anus about half as long as remainder of proctiger ----- 4.
4. Distal segment of aedeagus with apical extended portion shorter than half of shaft in lateral view ----- *C. nigradorsalis*
- Distal segment of aedeagus with apical portion strikingly extended dorsally, occupying 2/3 of shaft in lateral view ----- *C. rhoenjabensis*
5. Forewing with apical margin gently rounded ----- *C. shinjii*
- Forewing with apical margin somewhat subangularly rounded ----- 6.
6. Basal segment of aedeagus slightly curved, subangulately produced mesally in lateral view ----- *C. yunuuae* sp. nov.
- Basal segment of aedeagus deeply curved mesally, with distal half subparallel sided in lateral view ----- 7.
7. Body coloring dark brown to black with yellow to light brown markings on dorsum. Aedeagus with distal segment bent mesally in lateral view ----- *C. nigra*
- Body coloring yellowish green, without prominent markings on dorsum. Aedeagus with distal segment straight in lateral view ----- *C. shinjii*

Checklist of the species from Korea

1. *Calophya nigra* Kuwayama, 1908

Distribution: Korea (Central, South), China (Beijing, Heilongjiang, Jilin, Liaoning), Japan (Hokkaido, Honshu), Russia (Kurils, Maritime territory, Sakhalin).

2. *Calophya nigradorsalis* Kuwayama, 1908

Distribution: Korea (Central, South, Jeju), China (Beijing, Heilongjiang, Jilin, Liaoning), Japan (whole), Russia (Kurils, Maritime territory), Taiwan.

3. *Calophya phellodendri* Loginova, 1976

= *Calophya phellodendricola* Cho, 2019 nom. nud.

Distribution: Korea (Central, South), China (Beijing, Heilongjiang, Jilin, Liaoning), Japan (Hokkaido, Honshu), Russia (Kurils, Maritime territory, Sakhalin).

4. *Calophya rhois* (Löw, 1877) new rec.

Distribution: Korea (Central), China (Beijing, Gansu, Hubei, Jilin, Shandong, Shanxi), Europe, Russia.

5. *Calophya rhoenjabensis* Li, 2011

Distribution: Korea (Jeju), China (Yunnan).

6. *Calophya shinjii* Sasaki, 1954

Distribution: Korea (Central, South, Jeju), Japan (Hokkaido, Honshu, Kyushu, Shikoku).

7. *Calophya verticornis* Kwon, 1983

Distribution: Korea (Central, South), China (Fujian, Hunan, Liaoning, Zhejiang), Japan (Hokkaido, Honshu).

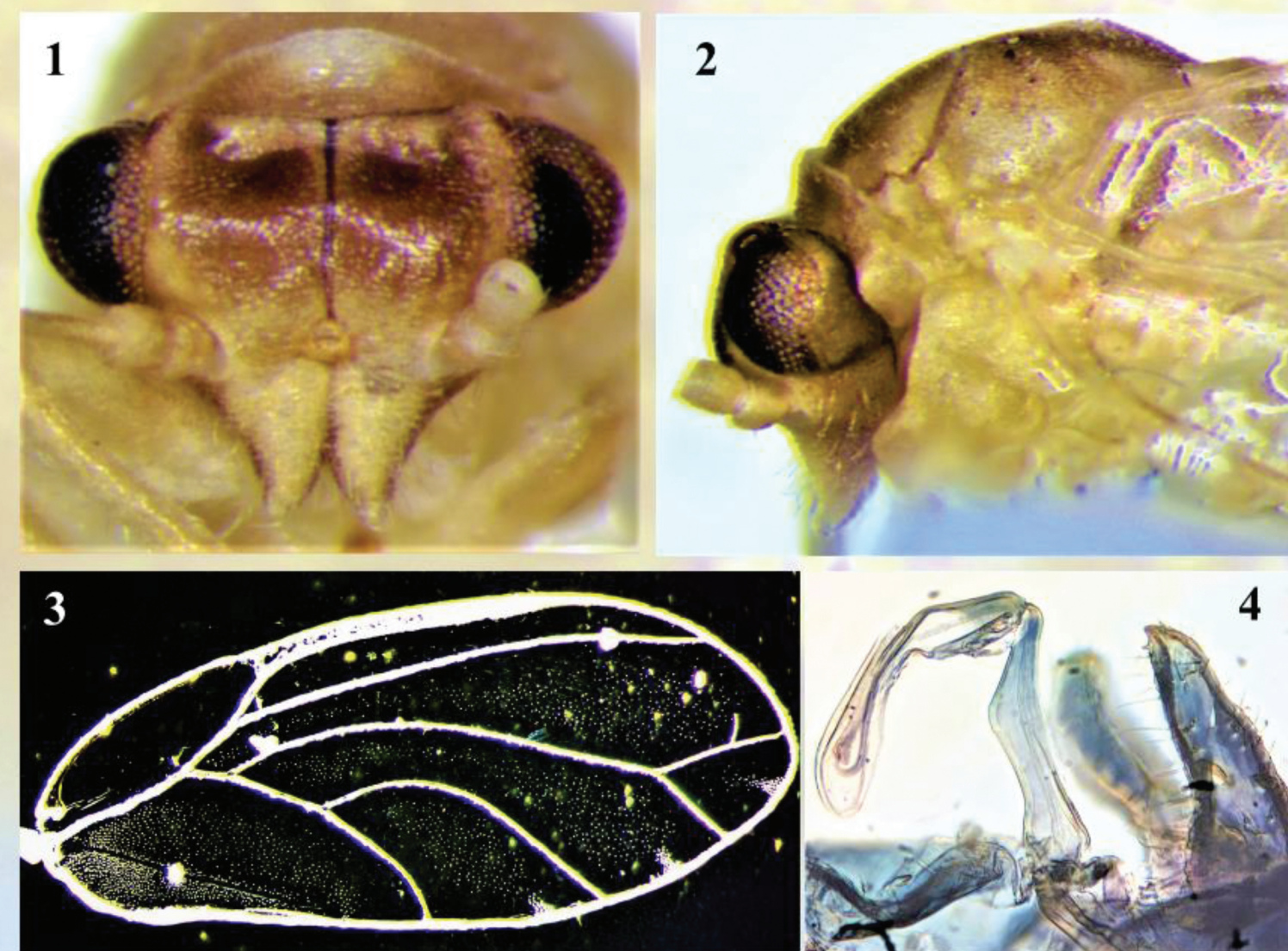
8. *Calophya yunuuae* sp. nov.

Diagnosis: Body coloring yellowish green, without prominent markings on dorsum. Forewing with apical margin somewhat subangularly rounded; vein Rs slightly sinuate at distal third; surface spinules sparsely distributed toward anterior half, leaving apparently broad spinule-free stripes along margins of veins. Basal segment of aedeagus slightly curved, subangulately produced mesally in lateral view.

Distribution: Korea (new record: Central),

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Figs. 1-4. *Calophya yunuuae* sp. nov. 1: head in anterior view, 2: head and thorax in lateral view, 3: forewing with spinulation, 4: aedeagus and paramere in lateral view.