

**Taxonomic notes on the genus *Egleis* Mulsant, 1850 and a description of a new subgenus in the genus *Illeis* Mulsant, 1850 (Coleoptera: Coccinellidae)**

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**Abstract.** A new replacement name, *Kiiro* nom. nov. is proposed for *Egleis* Mulsant, 1850. A new subgenus, *Hibachi* subgen. nov. of *Illeis* Mulsant is described. Key to genera and subgenera is provided.

## INTRODUCTION

The Oriental species of the genus *Illeis* Mulsant, 1850 should be placed in the genus *Egleis* Mulsant, 1850. However, there are two problems. The first is the homonymy. The name appeared twice in Mulsant's monograph of world Coccinellidae (1850). The second is the type of *Illeis*. The current *Illeis* was mainly formed by Korschefsky (1932) and Timberlake (1943). Both of them were regarded the second *Egleis* as a junior synonym of *Illeis*. However, they choose different species as types of *Illeis*: Korschefsky used *Coccinella cincta* Fabricius, 1798; Timberlake used *Psyllobora galbula* Mulsant, 1850.

In the Mulsant's monograph (1850), the genus *Psyllobora* Chevrolat, 1837 appeared to be divided into three subgenera, *Psyllobora*, *Illeis*, and *Egleis* on page 167. This *Egleis* was homonymous with the previous *Egleis* on page 151. *Psyllobora galbula* Mulsant, 1850 was a unique species belonging to *Illeis*, so that it was fixed as a type species by monotypy. The second *Egleis* was composed of two species, *Coccinella cincta* Fabricius, 1798 and *Psyllobora bistigmosa* Mulsant, 1850. Korschefsky (1932), however, before that the type species of *Illeis* was *C. cincta* and placed *P. galbula* in *Leptothea* Weise, 1898. Korschefsky (1932) sunk the second *Egleis* into a junior synonym of *Illeis*. On the other hand, Timberlake (1943) insisted that the line of *Egleis* should be inserted into just before that of *P. galbula*, and *Illeis* was a new replacement name for the second *Egleis* without explanation. He designated the type species of *Illeis* as *P. galbula*. Ślipiński (2007) insisted that the type of *Illeis* was designated by monotypy and *Leptothea* was a junior synonym of *Illeis*. Pope (1988) and Ślipiński (2007) regarded the second *Egleis* as a subgenus, but Mulsant (1850) spelled *E. cincta* on page 167. Therefore the rank of the second *Egleis* might be a genus not a subgenus. The Oriental yellow species had not been assigned to *Egleis* after Mulsant's description. So I approve the precedence of the first *Egleis* on page 151 based on the determination by the first reviser (Article 24.2 of the ICZN Code) and rename the second one *Kiiro* here. The type species of the latter has been validly designated as *Coccinella cincta* Fabricius, 1798 by Kovář (2007).

## RESULTS

### KEY TO GENERA RELATED TO THE GENUS *ILLEIS*

- 1(2) Female without sclerotized area in the base of spermatheca; male with developed inner branch of siphonal capsule. .... *Kiiro* nom. nov.  
2(1) Female with sclerotized area in the base of spermatheca; male with reduced or small inner branch of siphonal capsule. .... *Illeis* Mulsant, 1850  
3(4) Eyes small; mandible not finely serrate. .... *Illeis* (s.str.)  
4(3) Eyes large, interval of eyes as wide as an eye or less; mandibles finely serrate. . *Illeis* (*Hibachi* subgen. nov.)

Iablokoff-Khnzorian (1984) described a new subgenus *Bielawskia* under the genus *Illeis* based on *Protothea ranamese* Bielawski, 1960, which has a strongly divergent terminal segment the of maxillary palpus. *Bielawskia* is distinguishable from them by a reduced outer branch of siphonal capsule of male genitalia. Now, any materials are not available to me, so I did not add it to the key by the sole description.

#### ***Kiiro* nom. nov.**

(Figs 1, 5, 9)

*Egleis* Mulsant, 1850: 167 (type species subsequently designated by Kovář, 2007: 598 as *Coccinella cincta* Fabricius, 1798: 77).

*Illeis*: Korschefsky, 1932: 558; Bielawski, 1961: 353.

**Description.** Body moderate in size, circular to ovate, weakly convex above, glabrous on dorsum. Colour vivid yellow to dull yellow: pronotum whitish yellow with two black spots at base. Head deeply sunk into prothorax. Eyes rather large, moderately faceted, strongly arcuate at inner margin, emarginate near the antennal socket; interval of eyes as wide as an eye or narrower than it. Antennae long, distinctly longer than the width of head, 11-segmented: scape stout, not extremely bulging; club loosely articulate; terminal segment large and rounded apically, various in size. Mandibles bifid at apex and finely serrate at inner margin. Terminal segment of maxillary palpi extremely strongly dilated apicad. Pronotum transverse, weakly convex above, nearly straight at anterior margin, rounded at each corner. Scutellum nearly right triangular, slightly wider than long. Anterior margin of mesosternum weakly and gently emarginate. 1<sup>st</sup> visible abdominal sternite relatively short, slightly longer than 2<sup>nd</sup>, with incomplete femoral line, without associate line. 5<sup>th</sup> and 6<sup>th</sup> abdominal sternites rather gently emarginate or straight. Elytral epipleura nearly horizontal. Legs slender: middle and hind tibiae without spurs; claws with quadrate appendix at the basal half. Male genitalia: siphonal apex rounded except for *indica*; inner branch of siphonal capsule distinct; outer branch as long as inner one. Female genitalia: bursa copulatrix simple without large sclerotised area; infundibulum indistinct or reduced; spermatheca short and rather simple, not branched at base.

**Remarks.** The large eyes and the finely serrate mandibles are different from those of *Illeis* (s. str.). *Illeis* (*Hibachi*) is hardly distinguished from *Kiiro* by the exterior. However, this

genus is distinguished from it by the genital structures of both sexes as follows: inner branch of siphonal capsule distinct; bursa copulatrix simple and without large sclerotised area; infundibulum indistinct or reduced.

The following species should be placed in this genus, *Coccinella cincta* Fabricius, 1798, *Illeis confusa* Timberlake, 1943, *Illeis koeblei* Timberlake, 1943, *Illeis koeblei amamiana* Miyatake, 1959, and *Illeis shensinensis* Timberlake, 1943. *Illeis indica* Timberlake, 1943 is different from any other members by having a bifid siphonal apex and reduced inner branch of siphonal capsule. Judging from the drawing of the female genitalia of *I. indica* (Kanakavalli, 1960), it should be placed in this genus. In addition, *Illeis timberlakei* Bielawski, 1961, *Illeis gressitti* Bielawski, 1961 and *Illeis chinensis* Iablokoff-Khnzorian, 1978 might be placed in this genus.

**Etymology.** The name is derived from Japanese term, Kiiro which means yellow. The gender is feminine.

### List of species

***Kiiro cincta* (Fabricius, 1798) comb. nov.**

*Coccinella cincta* Fabricius, 1798: 77 (type locality: India orientalis).

*Illeis cincta*: Crotch, 1871:4

***Kiiro confusa* (Timberlake, 1943) comb. nov.**

*Illeis confusa* Timberlake, 1943: 44 (type locality: China).

***Kiiro koeblei* (Timberlake, 1943) comb. nov.**

*Illeis koeblei* Timberlake, 1943: 44 (type locality: Japan).

***Kiiro koeblei amamiana* (Miyatake, 1959) comb. nov.**

*Illeis koeblei amamiana* Miyatake, 1959: 158 (type locality: Yuwan, Amami-Ōshima).

***Kiiro shensinensis* (Timberlake, 1943) comb. nov.**

*Illeis shensinensis* Timberlake, 1943: 61 (type locality: Chin-ling Mountains, Shensi Province, China).

***Kiiro indica* (Timberlake, 1943) comb. nov.**

*Illeis indica* Timberlake, 1943: 61 (type locality: Lahore, India).

### ***Illeis* (s. str.) Mulsant, 1850**

(Figs. 2, 6, 10)

*Psyllobora* (*Illeis*) Mulsant, 1850: 1026 (type species designated by monotypy as *Psyllobora galbula* Mulsant, 1850: 166).

*Illeis*: Crotch, 1871: 4.

*Leptothea* Weise, 1898: 227 (type species designated by the original designation as *Psyllobora galbula* Mulsant, 1850: 166); synonymized by Ślipiński, 2007: 167.

*Illeis* (*Leptothea*): Iablokoff-Khnzorian, 1982: 282; Pope, 1988: 639.

**Description.** Similar to *Kiiro* except for the eyes, mandibles, genitalia. Colour arrangement various in each species. Eyes small, moderately faceted; interval of eyes wider than the eye.

Mandibles bifid at apex and fringed with several robust teeth at inner margin. Male genitalia: siphonal flagellum not exposing from apex; inner branch of siphonal capsule short, small or reduced. Female genitalia: bursa copulatrix with wide sclerotised band at the base of infundibulum; infundibulum slender and long, often fringed by a carina.

**Remarks.** This genus is distinguishable from *Kiiro* by small eyes, the mandibles and the genital structures. *Psyllobora galbula* Mulsant, 1850 and *Illeis flava* Pope, 1988 are placed in this nominotypical subgenus. The taxonomic problem of this genus has been adequately discussed and solved by Ślipiński (2007).

### List of species

#### *Illeis* (s. str.) *galbula* (Mulsant, 1850)

*Psyllobora galbula* Mulsant, 1850: 166 (type locality: l'Australie).

*Illeis galbula*: Crotch, 1871: 4.

*Lepthothea galbula*: Weise, 1898: 227.

*Illeis* (*Leptothea*) *galbula*: Iablokoff-Khnzorian, 1979: 63.

*Leptothea csikii* Weise, 1902: 497 (type locality: Nova-Guinea); synonymized by Iablokoff-Khnzorian,

1979: 63; Iablokoff-Khnzorian, 1982: 288.

*Leptothea moseri* Weise, 1902: 497 (type locality: Insula Key); synonymized by Iablokoff-Khnzorian, 1979: 63; Iablokoff-Khnzorian, 1982: 288.

#### *Illeis* (s. str.) *flava* Pope, 1988

*Illeis* (*Leptothea*) *flava* Pope, 1988: 640 (type locality: New South Wales).

#### *Illeis* (*Hibachi*) subgen. nov.

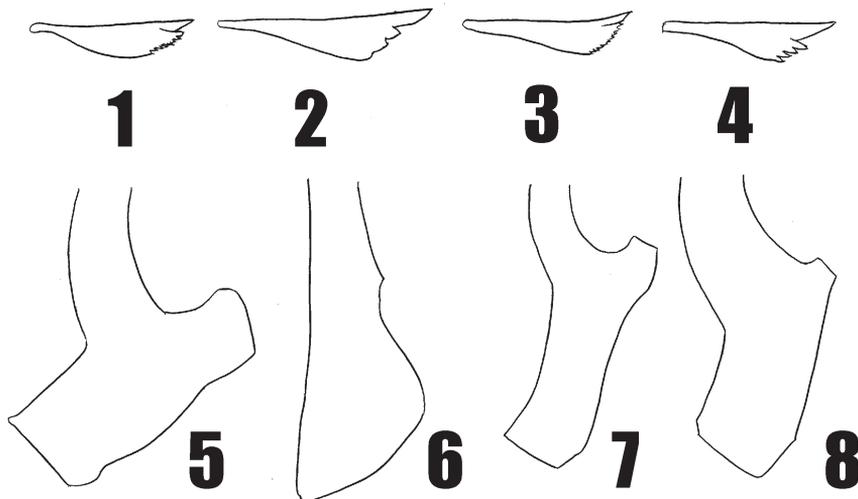
(Figs. 3, 4, 7, 8, 11)

**Type species:** *Illeis luzonica* Timberlake, 1943: 44.

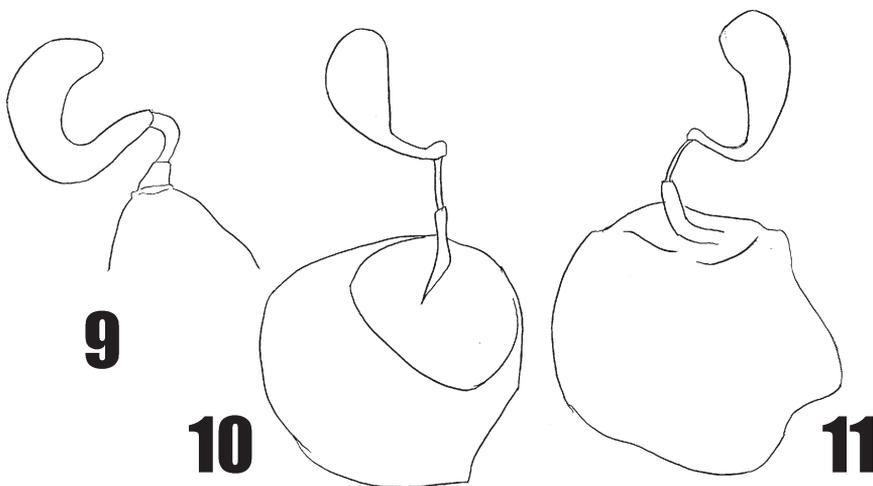
**Description.** Like *Illeis* (s. str.) except for the eyes and the mandibles. Eyes large, moderately faceted; interval between eyes as wide as an eye. Mandibles bifid at apex and finely serrate at the inner margin.

**Etymology.** The name is derived from the Japanese term, Hibachi of whose shape resembles the sclerotised band of bursa copulatrix. The gender is female.

**Remarks.** This subgenus resembles the nominotypical subgenus except for the large eyes and the bifid and finely serrate mandibles. The genital characters of both sexes are similar to those of *Illeis* (s. str.). I tentatively regard the female bursa to be the most important character and a reason, for which *Hibachi* species belong to *Illeis* as a subgenus. The following two species, *Illeis luzonica* Timberlake, 1943 and *Psyllobora bistigmosa* Mulsant, 1850 should be placed in this subgenus. However, the inner margin of mandibles of *P. bistigmosa* are more coarsely dentate than that of the type. I examined an immaculate species collected in South Sulawesi, which belongs to this subgenus.



Figs. 1-8. Mandible and siphonal capsule of male genitalia. 1, 5- *Kiïro cincta* (Fabricius, 1798); 2, 6- *Illeis galbula* (Mulsant, 1850); 3, 7- *Illeis luzonica* Timberlake, 1943; 4, 8- *Illeis bistigmosa* (Mulsant, 1850).



Figs. 9-11. Spermatheca and the base of female genitalia. 9- *Kiïro cincta* (Fabricius, 1798); 10- *Illeis galbula* (Mulsant, 1850); 11- *Illeis luzonica* (Timberlake, 1943).

### List of species

#### *Illeis (Hibachi) luzonica* Timberlake, 1943

*Illeis luzonica* Timberlake, 1943: 44 (type locality: Los Baños, Luzon, Philippine Islands).

***Illeis (Hibachi) bistigmosa* Mulsant, 1850**

*Psyllobora bistigmosa* Mulsant, 1850: 168 (type locality: Penang).

*Illeis bistigmosa*: Crotch, 1871: 4.

*Illeis bielawskii* Ghorpade, 1976: 540 (type locality: Karnataka, Bangalore district, Doddagubbi, nr. Bangalore, India); synonymized by Iablokoff-Khnzorian, 1979: 64; Iablokoff-Khnzorian, 1982: 290.

*Psyllobora bistigmosa* (Mulsant, 1850) transferred to *Illeis* by Crotch, 1871: 4.

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