



[研究文章 Research Article]

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## Checklist of Taiwanese Proctotrupidae (Hymenoptera: Proctotrupoidea), with Nine New Records

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**Abstract.** A checklist of the Taiwanese fauna of Proctotrupidae was provided. Nine species of Proctotrupidae were newly recorded from Taiwan: *Brachyserphus abruptus* (Say, 1836), *B. leleji* Kolyada, 2016, *B. nudipleuralis* Kolyada, 1997, *B. parvulus* (Nees, 1834), *B. semipunctatus* Kolyada, 2012, *Cryptoserphus aculeator* (Haliday, 1839), *C. flavipes* (Provancher, 1881), *Oxyserphus chypeatus* (Ashmead, 1893), *Tretoserphus laricis* (Haliday, 1839).

**Keywords:** fauna, Cryptoserphini, parasitic wasp, distribution

### Introduction

The Taiwanese fauna of Proctotrupidae has been poorly surveyed, and currently, 18 species in 12 genera are recorded (Townes & Townes, 1981; Kolyada & Mostovski, 2017). The focus of the species was limited to only three genera—*Maaserphus*, *Nothoserphus*, and *Phoxoserphus*—in Taiwanese institutional collections (Lin, 1987, 1988; Abe, 2023). During my examination of the proctotrupids collection at the Taiwan Agricultural Research Institute (TARI), I identified several species not previously recorded from Taiwan. In this paper, I report them as new additions to the Taiwanese fauna, along with a checklist of the species.

### Materials and methods

All specimens examined in this study are deposited in TARI. Photos were taken using an αMP-E65 mm macro lens mounted on a Sony 7R IV digital camera. Individual photos were stack-combined with Zerene Stacker and processed in Adobe Photoshop CC.

Morphological terms follow those of Townes & Townes (1981), He & Xu (2015), and the Hymenoptera Anatomy Ontology (Yoder et al., 2010).

### Results

**Family Proctotrupidae Latreille, 1802**  
**Subfamily Proctotrupinae Latreille, 1802**  
**Tribe Disogmini Kozlov, 1970**

***Disogmus* Foerster, 1856**

**Type species:** *Proctotrupes areolator* Haliday, 1839

**Remarks.** This genus was recorded from Taiwan by Lin (1988), but no specific species was mentioned.

**Tribe Cryptoserphini Kozlov, 1970**

***Brachyserphus* Hellén, 1941**

**Type species:** *Codrus parvulus* Nees, 1834

**Remarks.** This genus was recorded from Taiwan by Lin (1988), but no specific species was mentioned. Distinguishing between species is challenging for most male samples (Choi et al., 2012).

***Brachyserphus abruptus* (Say, 1836), new record**  
(Fig. 1)

*Proctotrupes abruptus*: Say, 1836: 278. Holotype, female; type locality: Indiana, USA.

*Brachyserphus abruptus*: Townes & Townes, 1981: 122-125 (transferred to *Brachyserphus*).

**Specimen examined.** 1 female, Meifeng, Nantou Hsien, 2150 m, 22 V 1982, L. Y. Chou; 4 females, same locality above, MT, X



1985, K. S. Lin; 1 female, same locality above, MT, VIII 1984, K. S. Lin & K. C. Chou; 1 female, same locality above, MT, VI 1984, K. S. Lin & K. C. Chou; 1 female, Anmashan, Taichung, 2275 m, 6-9 VII 1979, L. Y. Chou; 1 female, Tsuifeng, Nantou Hsien, 2300 m, MT, VIII 1984, K. S. Lin & K. C. Chou.

**Diagnosis.** Scrobe without longitudinal and oblique wrinkles; pronotal shoulder protrudes dorsally; pronotal corner in lateral with two pits; epicoxial carina on metapleuron is present. Metatibial spurs are not hooked. The punctate area in the anterior part of fifth tergite reaching 2/3 of its length and includes a row of hairs in the posterior part of the tergite. The ovipositor sheath is curved, not hooked, measuring 3.2 times the width laterally and 3.9 times the width dorsally.

**Distribution.** Brazil, Canada, Costa Rica, Mexico, Russia, USA (Kolyada 2016; Townes & Townes 1981). New record for Taiwan (Nantou County).

***Brachyserphus leleji* Kolyada, 2016, new record**

(Fig. 2)

*Brachyserphus leleji*: Kolyada, 2016: 75. Holotype, female; type locality: Iwate, Japan.

**Specimen examined.** 1 female, Tungpu, Nantou Hsien, 1200 m, 23-27 VII 1984, K. C. Chou & C. H. Yang; 1 female, same locality above, 18-23 XI 1981, T. Lin & W. S. Tang.

**Diagnosis.** Scrobe without longitudinal and oblique wrinkles; pronotal shoulder does not protrude dorsally; pronotal corner in lateral view with two pits; epicoxial carina on metapleuron is present. Metatibial spurs are not hooked. The punctate area in the anterior part of the fifth tergite reaches 2/3 of its length and includes a row of hairs in the posterior part of the tergite. The ovipositor sheath is hooked and strongly curved apically.

**Distribution.** Japan (Kolyada 2016). New record for Taiwan (Nantou County).

***Brachyserphus nudipleuralis* Kolyada, 1997, new record**

(Fig. 3)

*Brachyserphus nudipleuralis*: Kolyada, 1997: 5. Holotype, female; type locality: Primorskii krai, Russia.

**Specimen examined.** 1 female, Meifeng, Nantou Hsien, 2150 m, MT, X 1985, K. S. Lin; 1 female, same locality above, MT, VIII 1984, K. S. Lin & K. C. Chou; 2 females, Tsuifeng, Nantou Hsien, 2300 m, MT, VIII 1984, K. S. Lin & K. C. Chou; 1 female, same locality above, MT, X 1984, K. S. Lin; 1 female, same locality above, MT, X 1985, K. S. Lin; 1 female, Tayuling, Hualien Hsien, 2560 m, MT, 9-16 VI 1980, K. S. Lin & B. H. Chen; 3 females, Sungkang, Nantou Hsien, 2100 m, MT, XII 1985, K. S. Lin.

**Diagnosis.** Scrobe without longitudinal and oblique wrinkles; pronotal shoulder does not protrude dorsally; pronotal corner in lateral view with two pits; epicoxial carina on metapleuron is absent. Metatibial spurs are not hooked. The ovipositor sheath is curved, not hooked, measuring 0.55–0.60 times the length of the hind tibia.

**Distribution.** Japan, Russia (Kolyada 2016). New record for Taiwan (Nantou County and Hualien County).

***Brachyserphus parvulus* (Nees, 1834), new record**

(Fig. 4)

*Codrhus parvulus*: Nees, 1834: 360. Holotype, female; type locality: Sickershausen, Germany,

*Brachyserphus parvulus*: Hellén, 1941: 42 (transferred to *Brachyserphus*).

**Specimen examined.** 1 female, Meifeng, Nantou Hsien, 2130 m, 2-4 VI 1980, L. Y. Chou & C. C. Chen; 3 females, Meifeng, Nantou Hsien, 2150 m, MT, VIII 1984, K. S. Lin & K. C. Chou; 3 females, Meifeng, Nantou Hsien, 2150 m, MT, X 1985, K. S. Lin; 3 females, same locality above, MT, VII 1984, K. S. Lin & K. C. Chou; 1 female, same data above, but date is VI 1984; 2 females, same data above, but date is X 1984; 1 female, Meifeng, Nantou Hsien, 2300 m, MT, VII 1984, K. S. Lin & K. C. Chou; 1 female, Sungkang, Nantou Hsien, 2100 m, MT, XI 1985, K. S. Lin; 1 female, same data above, but date is XII 1985; 2 females, same data above, but date is IX 1985; 1 female, same data above, but date is X 1985; 2 females, Tsuifeng, Nantou Hsien, 2300 m, MT, 1-3 VIII 1981, T. Lin & W. S. Tang; 1 female, same locality above, MT, 1-3 IX 1982, L. Y. Chou & K. C. Chou; 9 females, same locality above, MT, VIII 1984, K. S. Lin & K. C. Chou; 1 females, same locality above, MT, X 1984, K. S. Lin & K. C. Chou; 3 females, same locality above, MT, X 1985, K. S. Lin; 1 female, Tayuling, Hualien Hsien, 2560 m, MT, 10-16 VI 1980, K. S. Lin & B. H. Chen; 1 female, same locality above, 24-26 VI 1977, K. S. Lin.

**Diagnosis.** Scrobe without longitudinal and oblique wrinkles; pronotal shoulder does not protrude dorsally; pronotal corner in lateral view with two pits; epicoxial carina on metapleuron is present. Metatibial spurs are not hooked. The punctate area in the anterior part of the fifth tergite reaches 2/3 of its length and includes a row of hairs in the posterior part of the tergite. The ovipositor sheath is curved, not hooked, measuring 4.2–5.0 times the width laterally and 5.0–5.6 times the width dorsally.

**Distribution.** Austria, Canada, Iran, Ireland, Japan, Russia, South Korea, Sweden, UK, USA (Pschorn-Walcher, 1964; Townes & Townes, 1981; Zettel, 1991; Kolyada, 1997; Hedfqvist, 2007; Choi et al., 2012; Izadzadeh et al., 2020). New record for Taiwan (Nantou County and Hualien County).



***Brachyserphus semipunctatus* Kolyada, 2012, new record**  
(Fig. 5)

*Brachyserphus semipunctatus*: Choi et al., 2012: 243-244. Holotype, female; type locality: Primorskii krai, Russia.

**Specimen examined.** 2 females, Tsuifeng, Nantou Hsien, 2300 m, MT, IX 1984, K. S. Lin & K. C. Chou; 1 female, same locality above, MT, XI 1985, K. S. Lin; 1 female, same locality above, MT, X 1985, K. S. Lin; 1 female, same locality above, MT, 23-25 VI 1983, K. S. Lin & S. C. Lin; 2 females, same locality above, MT, 1-3 VIII 1981, T. Lin & W. S. Tang; 3 females, same locality above, MT, VIII 1984, K. S. Lin & K. C. Chou; 1 female, Meifeng, Nantou Hsien, 2150 m, MT, VI 1984, K. S. Lin & K. C. Chou; 1 female, same locality above, MT, 28-29 VIII 1981, L. Y. Chou & S. C. Lin; 1 female, same locality above, MT, 22 V 1982, L. Y. Chou; 1 female, same locality above, MT, VIII 1984, K. S. Lin & K. C. Chou; 1 female, Tayuling, Hualien Hsien, 2560 m, MT, 9-16 VI 1980, K. S. Lin & B. H. Chen; 1 female, Sungkang, Nantou Hsien, 2100 m, 6 VIII 1984, K. S. Lin.

**Diagnosis.** Scrobe without longitudinal and oblique wrinkles; pronotal shoulder does not protrude dorsally; pronotal corner in lateral view with two pits; epicoxial carina on metapleuron is present. Metatibial spurs are not hooked. The punctate area in the anterior part of the fifth tergite does not reach half of its length and does not include a row of hairs in the posterior part of the tergite. The ovipositor sheath is curved, not hooked.

**Distribution.** Japan, Korea, Russia, Ukraine (Choi *et al.* 2012; Kolyada 2016). New record for Taiwan (Nantou County and Hualien County).

***Cryptoserphus* Kieffer, 1907**

**Type species:** *Proctotrupes flavipes* Provancher, 1881

**Remarks.** This genus was recorded from Taiwan by Lin (1988), but no specific species was mentioned.

***Cryptoserphus aculeator* (Haliday, 1839), new record**  
(Fig. 6)

*Proctotrupes aculeator*: Haliday, 1839: 14. Lectotype, female; data of type locality lacked.

*Cryptoserphus aculeator*: Kieffer, 1914: 39 (transferred to *Cryptoserphus*).

**Specimen examined.** 1 female, Meifeng, Nantou Hsien, 2130 m, 25 X-7 XI 1979; 1 female, same locality above, 29 VIII-10 IX 1979; 2 males, 1 female, same locality above, 10 V 1979, K. C. Chou; 1 female, Sungkang, Nantou Hsien, 2100 m, MT, XI 1985, K. S. Lin; 5 females, same locality above, MT, X 1984, K. S. Lin & K. C. Chou; 2 females, same locality above, MT, X 1985, K. S. Lin; 1 female, same locality above, MT, IX 1984, K. S. Lin & K. C. Chou; 1 female, same locality above, MT, IX 1985, K. S. Lin; 1 female, Anmashan, Taichung Hs., 2275 m, 6-9 VII 1979, L. Y. Chou; 1 male, Tayuling, Hualien Hsien, 2560 m, 9-16 VI 1980, K. S. Lin & B. H. Chen.

**Diagnosis.** Mandible short and thin, without subapical teeth. Notaulus is short, 0.5–1.0 times the width of the tegula. The dorsal part of the propodeum is longer than the posterior part, featuring a smooth area, measuring 1.4–1.6 times the width. The stigma is wider than the radial cell (2R1). Femora are fulvous. The antero-dorsal margin of tergite 1 has a long median groove. The antero-ventral part of sternite 1 bears about 50 hairs. Tergite 2 exhibits small punctures laterally, spaced about 2.0 times the diameter.

**Distribution.** Austria, China, Germany, Iran, Ireland, Italy, Japan, Java, Nepal, Philippines, Russia, Spain, South Korea, Sweden, UK (Fan & He 1991; Haliday 1839; Hellén 1941; Izadizadeh *et al.* 2016; Kieffer 1914; Park & Lee 2021; Pschorn-Walcher 1964; Townes & Townes 1981; Weidemann 1965). New record for Taiwan (Nantou County and Hualien County).

***Cryptoserphus flavipes* (Provancher, 1881), new record**  
(Fig. 7)

*Proctotrupes flavipes*: Provancher, 1881: 264. Holotype, female; type locality: Quebec, Canada.

*Cryptoserphus flavipes*: Brues, 1919: 6 (transferred to *Cryptoserphus*).

**Specimen examined.** 1 male, Tsuifeng, Nantou Hsien, 2300 m, MT, 25-27 VI 1981, K. S. Lin & W. S. Tang; 1 female, same locality above, MT, XII 1985, K. S. Lin; 1 female, same data above, but date is XI 1985; 1 female, same data above, but date is X 1985.

**Diagnosis.** Mandible short and thin, with a subapical tooth; ventral margin of clypeus 3.3 times as long as its length. Pronotal shoulder does not project laterally; notaulus is short, 0.5–1.0 times the width of the tegula; dorsal part of the propodeum is longer than the posterior part, featuring a smooth area, measuring 1.4–1.6 times the width. Femora are fulvous. The antero-dorsal margin of tergite 1 has a long median groove, and the ovipositor sheath is 1.0 times as long as the hind tibia.

**Distribution.** Austria, Canada, China, Czechoslovakia, France, Germany, Japan, Russia, Sweden, UK, USA (He & Xu 2015; Kieffer 1914; Kolyada & Chemyreva 2019; Provancher 1881; Pschorn-Walcher 1964; Townes & Townes 1981). New record for Taiwan (Nantou County).

***Maaserphus* Lin, 1988**



**Type species:** *Maaserphus basalis* Lin, 1988

**Remarks.** The Taiwanese fauna of this genus was reviewed by Lin (1988).

***Maaserphus basalis* Lin, 1988**

*Maaserphus basalis*: Lin, 1988: 17-18. Holotype, female; type locality: Tsuifeng, Nantou County, Taiwan.

**Distribution.** Taiwan (Taichung County, Nantou County, Chiayi County) (Lin 1988).

***Maaserphus brevicaudus* Lin, 1988**

*Maaserphus brevicaudus*: Lin, 1988: 20. Holotype, female; type locality: Sungkang, Nantou County, Taiwan.

**Distribution.** Taiwan (Nantou County) (Lin 1988).

***Maaserphus fuscipes* Lin, 1988**

*Maaserphus fuscipes*: Lin, 1988: 19-20. Holotype, female; type locality: Sungkang, Nantou County, Taiwan.

**Distribution.** Taiwan (Nantou County) (Lin 1988).

***Maaserphus longicaudus* Lin, 1988**

*Maaserphus longicaudus*: Lin, 1988: 20. Holotype, female; type locality: Sungkang, Nantou County, Taiwan.

**Distribution.** Taiwan (Nantou County) (Lin 1988).

***Maaserphus striatus* Lin, 1988**

*Maaserphus striatus*: Lin, 1988: 18. Holotype, female; type locality: Sungkang, Nantou County, Taiwan.

**Distribution.** Taiwan (Ilan County, Nantou County) (Lin 1988).

***Mischerphus* Townes, 1981**

**Type species:** *Cryptoserphus arcuator* Stelfox, 1950

**Remarks.** This genus was recorded from Taiwan by Lin (1988), but no specific species was mentioned. About 300 unidentified specimens belonging to this genus are deposited in TARI.

***Nothoserphus* Brues, 1940**

**Type species:** *Nothoserphus mirabilis* Brues, 1940

**Remarks.** The Taiwanese fauna of this genus was reviewed by Lin (1987).

***Nothoserphus admilabilis* Lin, 1987**

*Nothoserphus admilabilis* : Lin, 1987: 57. Holotype, female; type locality: Sungkang, Nantou County, Taiwan.

**Distribution.** Taiwan (Nantou County, Pingtung County) (Lin 1987).

***Nothoserphus aequalis* Townes, 1981**

*Nothoserphus aequalis*: Townes, 1981: 66. Holotype, female; type locality: Katumandu, Nepal.

**Distribution.** Nepal, Taiwan (Taoyuan County, Nantou County, Hualien County) (Lin 1987; Townes & Townes 1981).

***Nothoserphus debilis* Townes, 1981**

*Nothoserphus debilis*: Townes, 1981: 66-67. Holotype, male; type locality: Fenkihi, Chiayi County, Taiwan.

**Distribution.** China, Nepal, Taiwan (Nantou County) (He & Xu 2015; Lin 1987; Townes & Townes 1981).



***Nothoserphus epilachnae* (Pschorn-Walcher, 1958)**

*Watanabeia epilachnae*: Pschorn-Walcher, 1958: 728-729. Holotype, female; type locality: Lembang, Java.

*Nothoserphus epilachnae*: Townes & Townes, 1981: 67 (transferred to *Nothoserphus*).

**Distribution.** China, Java, Taiwan (Nantou County, Hualien County), Vietnam (He & Xu 2015; Lin 1987; Pschorn-Walcher 1958; Townes & Townes 1981).

***Nothoserphus fuscipes* Lin, 1987**

*Nothoserphus fuscipes*: Lin, 1987: 54-55. Holotype, female; type locality: Tsuifeng, Nantou County, Taiwan.

**Distribution.** Taiwan (Taichung County, Nantou County, Hualien County) (Lin 1987).

***Nothoserphus mirabilis* Brues, 1940**

*Nothoserphus mirabilis*: Brues, 1940: 264. Holotype, male; type locality: Taihorin, Chiayi County, Taiwan.

**Distribution.** China, India, Iran, Java, Nepal, Pakistan, Taiwan (Chiayi County, Taichung County, Nantou County, Hualien County, Pingtung County, Taitung County) (Bodlah *et al.* 2019; Hamid *et al.* 2020; Lin 1987; Pschorn-Walcher 1958; Townes & Townes 1981)

***Nothoserphus partitus* Lin, 1987**

*Nothoserphus partitus*: Lin, 1987: 53. Holotype, male; type locality: Tangpu, Nantou County, Taiwan.

**Distribution.** Taiwan (Nantou County) (Lin 1987).

***Nothoserphus townesi* Lin, 1987**

*Nothoserphus townesi*: Lin, 1987: 53-54. Holotype, female; type locality: Tangpu, Nantou County, Taiwan.

**Distribution.** Taiwan (Taichung County, Nantou County, Chiayi County) (Lin 1987).

***Oxyserphus* Masner, 1961**

Type species: *Proctotrupes maculipennis* Cameron, 1888

***Oxyserphus clypeatus* (Ashmead, 1893), new record  
(Fig. 8)**

*Proctotrupes clypeatus*: Ashmead, 1893: 339. Holotype, female; type locality: New York, USA.

*Oxyserphus clypeatus*: Kolyada & Mostovski, 2017: 576 (transferred to *Oxyserphus*).

**Specimen examined.** 1 female, Sungkang, Nantou Hsien, 2100 m, MT, XI 1985, K. S. Lin; 1 female, Tsuifeng, Nantou Hsien, 2300 m, MT, VIII 1984, K. S. Lin & K. C. Chou; 1 male, Meifeng, Nantou Hsien, 2150 m, MT, 5-9 X 1980, C. C. Chen, & C. C. Chien.

**Diagnosis.** Mandible with a subapical tooth. Pronotul groove absent; ventro-lateral corner of pronotum without hairs; mesopleural hair band incomplete; metapleural smooth area present; ventro-lateral part of mesopleuron with hairs. Fore wing 2.6–3.6 mm, slightly to moderately tinged with dark brown, not yellow. Coxae dark brown. Stalk hidden; ovipositor sheath 0.60–0.85 times as long as hind tibia.

**Distribution.** Canada, Japan, Russia, USA.(Abe 2022; Kolyada & Chemyreva 2019; Townes & Townes 1981). New record for Taiwan (Nantou County).

***Phoxoserphus* Lin, 1988**

Type species: *Phoxoserphus chikoi* Lin, 1988

Remarks. All Taiwanese species have been reviewed by Abe (2023).

***Phoxoserphus chikoi* Lin, 1988**

*Phoxoserphus chikoi*: Lin, 1988: 22-23. Holotype, female; type locality: Sungkang, Nantou County, Taiwan.



**Distribution.** Japan, Taiwan (Miaoli County, Nantou County, Hualien County) (Abe, 2023).

***Phoxoserphus iyokpe* Abe, 2023**

*Phoxoserphus iyokpe*: Abe, 2023: 142-143. Holotype, female; type locality: Hokkaido, Japan.

**Distribution.** Japan, Taiwan (Nantou County) (Abe, 2023).

***Phoxoserphus vescus* Lin, 1988**

*Phoxoserphus vescus*: Lin, 1988: 21-22. Holotype, female; type locality: Tsuifeng, Nantou Hsien, Taiwan.

**Distribution.** Taiwan (Nantou County) (Abe, 2023).

***Trachyserphus Kolyada, 2017***

**Type species:** *Hormoserphus segregatus* Townes, 1981.

***Trachyserphus segregatus* (Townes, 1981)**

*Hormoserphus segregatus*: Townes & Townes, 1981: 115-116. Holotype, female; type locality: Katumandu, Nepal.

*Hormoserphus chinensis*: He & Fan, 1991: 220-221.

*Hormoserphus striatus*: He & Xu, 2015: 203.

*Trachyserphus segregatus*: Kolyada & Mostovski, 2017: 578 (transferred to *Trachyserphus*).

**Specimen examined.** 1 male, Tsuifeng, Nantou Hsien, 2300 m, 16 VIII 1982, S. C. Lin & C. N. Lin; 1 female, same locality above, MT, IX 1984, K. S. Lin & K. C. Chou; 2 females, same locality above, MT, VII 1984, K. S. Lin & K. C. Chou; 1 male, Alishan, Chiayi Hsien, 2400 m, 17-20 1982, K. C. Chou & C. C. Pan; 2 male, Tungpu, Nantou Hsien, 1200 m, 28 IV-2 V 1981, T. Lin & C. J. Lee; 1 female, Meifeng, Nantou Hsien, 2150 m, MT, VII 1984, K. S. Lin & K. C. Chou; 1 female, same locality above, 7-9 V 1981, K. S. Lin & S. C. Lin; 1 female, Arisan, 2-23 X 1918, J. Sonan & M. Yoshino.

**Diagnosis.** The area between antennal sockets is strongly convex in dorsal view, and the dorsal part of the occipital carina is developed. The longer spur of the hind tibia measures 0.7 times the length of the basitarsus. The ovipositor sheath is short, measuring 0.3 times the length of the hind tibia.

**Distribution.** China, Nepal, Taiwan (Taichung County, Nantou County, Chiayi County), Vietnam (Kolyada & Mostovski 2017).

**Remarks.** The record of this species from Taiwan was based on the collection of the Canadian National Collection of Insects in Ottawa, Canada (CNCI) (Kolyada & Mostovski 2017). Additional specimens were recognized in TARI

***Tretoserphus Townes, 1981***

**Type species:** *Proctotrupes larisis* Haliday, 1839

**Remarks.** This paper reports the genus as newly recorded in Taiwan.

***Tretoserphus laricis* (Haliday, 1839), new record**

(Fig. 9)

*Proctotrupes laricis*: Haliday, 1839: 14. Holotype, female; type locality: England, UK.

*Tretoserphus laricis*: Townes, 1981: 70-73 (transferred to *Tretoserphus*).

**Specimen examined.** 1 male, Tsuifeng, Nantou Hsien, 2300 m, 20 IV 1983, K. C. Chou & S. P. Huang.

**Diagnosis.** Lateral part of pronotal shoulder is developed and weakly projecting. The scrobe is smooth, and the carina connecting the metapleural smooth area to the anterior margin of the propodeum is distinct. The first thyridium is 2.6-4.0 times as long as wide. The ovipositor sheath is smooth and 0.6 times as long as the hind tibia.

**Distribution.** Canada, China, Iran, Japan, Russia, South Korea, Sweden, UK, USA (Hamid *et al.* 2020; Kolyada & Chemyreva 2019; Pschorn-Walcher 1964; Townes & Townes 1981). New record for Taiwan (Nantou County).

**Tribe Proctotruperini Latreille, 1802**

***Exallonyx* Kieffer, 1904**

**Type species:** *Exallonyx formicarius* Kieffer, 1904

***Exallonyx chiuuae* Townes, 1981**

*Exallonyx chiuuae*: Townes & Townes, 1981: 301-302. Holotype, male; type locality: Kuanhsi, Sinchu, Taiwan.

**Distribution.** Taiwan (Hsinchu County, Nantou County) (Townes & Townes 1981).

**Remarks.** This species was described by Townes & Townes (1981), and the type series is deposited in CNCI..

***Phaenoserphus* Kieffer, 1908**

**Type species:** *Proctotrupes viator* Haliday, 1839

**Remarks.** This genus was recorded from Taiwan by Lin (1988), but no specific species was mentioned.

***Phaneroserphus* Pschorn-Walcher, 1958**

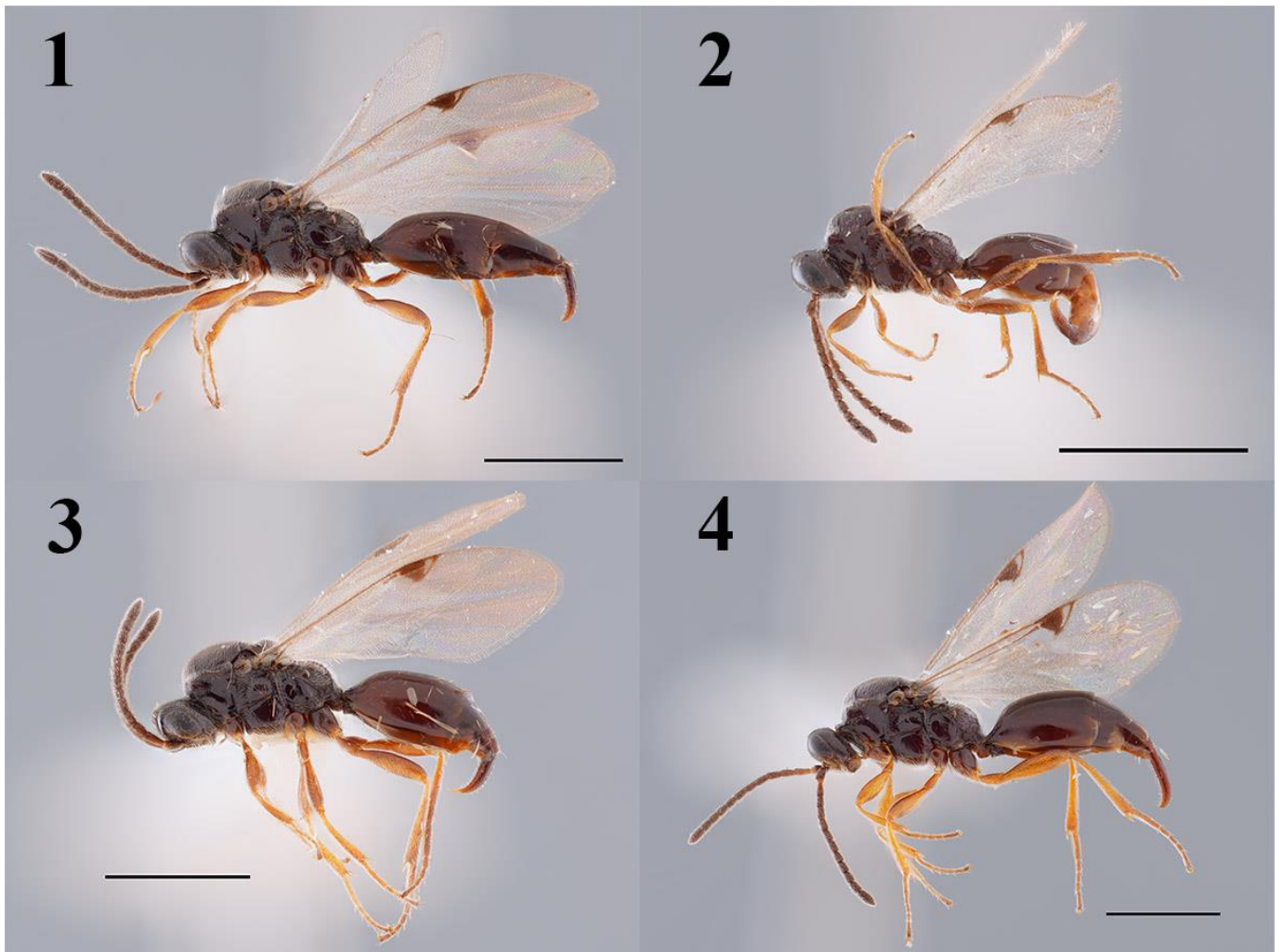
**Type species:** *Proctotrupes calar* Haliday, 1839

**Remarks.** This genus was recorded from Taiwan by Lin (1988), but no specific species was mentioned.

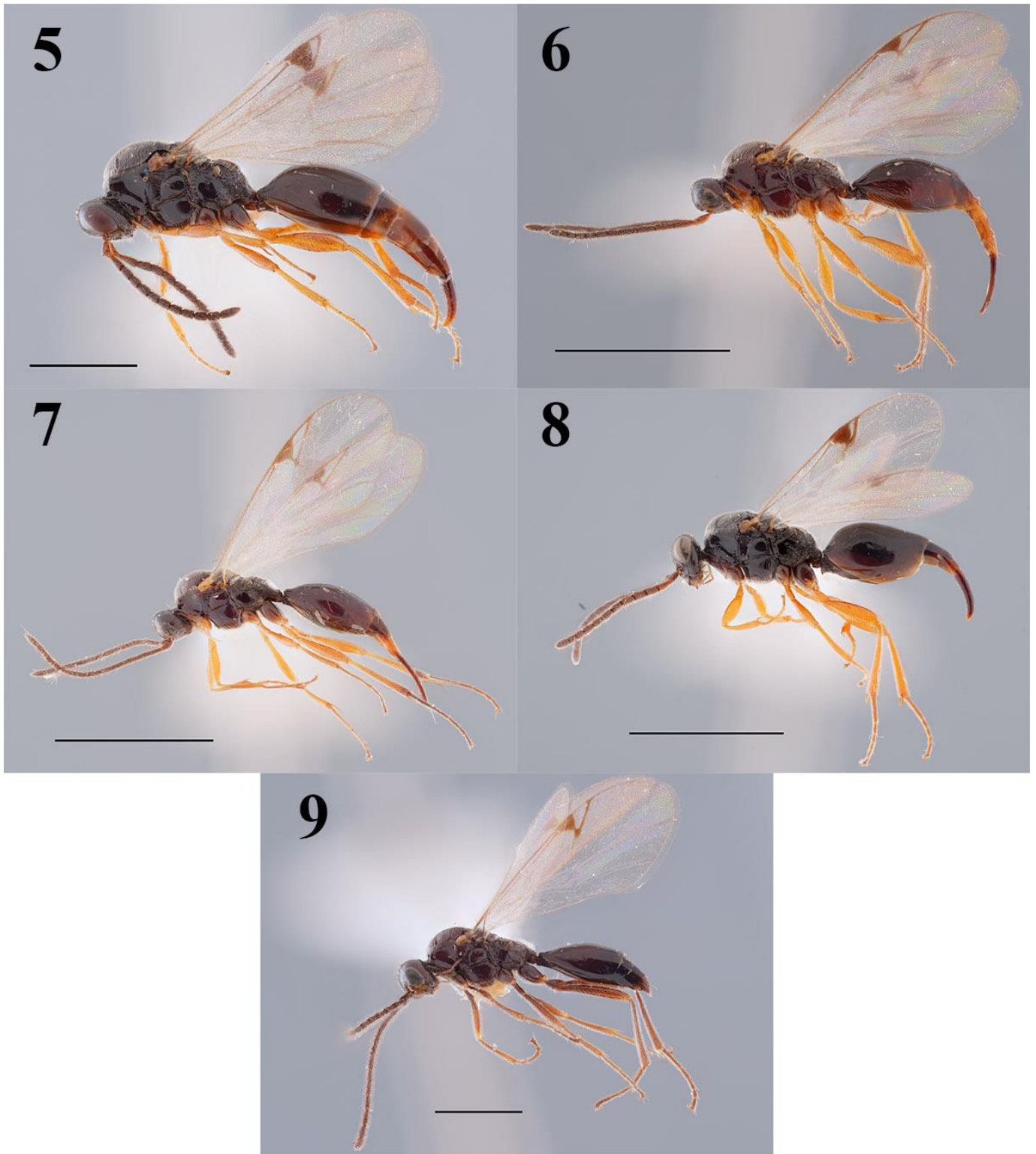
***Proctotrupes* Latreille, 1802**

**Type species:** *Proctotrupes brachypterus* Latreille, 1802

**Remarks.** This genus was recorded from Taiwan by Lin (1988), but no specific species was mentioned.



Figures 1–4. Lateral habitus of Taiwanese Proctotrupidae. 1: *Brachyserphus abruptus*; 2: *B. leleji*; 3: *B. nudipleuralis*; 4: *B. parvulus*. Scale bars: 1 mm



Figures 5–9. Lateral habitus of Taiwanese Proctotrupidae. 5: *B. semipunctatus*; 6: *Cryptoserphus aculeator*; 7: *C. flavipes*; 8: *Oxyserphus clypeatus*; 9: *Tretoserphus laricis*. Scale bars: 6-8 = 2 mm; 9 = 1 mm.

#### Discussion

Approximately 800 specimens were examined from TARI's collection. Only 117 specimens could be identified and were recorded in this study. Intensive examination of TARI's collection is needed for Disogmini, Proctotrupini, and the remaining Cryptoserphini. In He & Xu (2015), 267 species were newly described in Mainland China. Further research will be required for the proctotrupid fauna in Taiwan.

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## 臺灣產細蜂科名錄 (膜翅目：細蜂總科)與九種臺灣新紀錄種

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**摘要：**本研究提供臺灣產細蜂科名錄，包含9種臺灣新紀錄：*Brachyserphus abruptus* (Say, 1836)、*B. leleji* Kolyada, 2016、*B. nudipleuralis* Kolyada, 1997、*B. parvuunclus* (Nees, 1834)、*B. semipunctatus* (Haliday, 1839)、*C. flavipes* (Provancher, 1881)、



*Oxyserphus clypeatus* (Ashmead, 1893)與 *Tretoserphus laricis* (Haliday, 1839)。

**關鍵詞：**動物相、Cryptoserphini、寄生蜂、分佈