

# The New Record of *Pleotrichophorus pseudoglandulosus* (Palmer, 1952) (Hemiptera: Aphididae) in South Korea

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## 한국의 미기록종 *Pleotrichophorus pseudoglandulosus* (Palmer, 1952)(노린재목: 진딧물과)에 대한 보고

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**ABSTRACT:** *Pleotrichophorus pseudoglandulosus* (Palmer, 1952) collected on *Artemisia princeps* Pamp. is reported for the first time in South Korea. Species description, measurement, diagnosis, distributions, host plants, illustrations, and identification key of apterous viviparous females in the genus *Pleotrichophorus* from South Korea are provided.

**Key words:** *Pleotrichophorus*, Aphididae, New record, Korea

**초록:** 본 연구에서는 쑥에서 서식하는 *Pleotrichophorus pseudoglandulosus* (Palmer, 1952) 를 처음으로 보고한다. 무시성충에 대한 형태학적 정보, 기주식물, 분포지역, 한국에 분포하는 *Pleotrichophorus* 속 종들에 대한 분류키를 제공한다.

**검색어:** 가는쑥뭉텨진딧물(신칭), 진딧물아과, 미기록, 한국

The genus *Pleotrichophorus* Börner, 1930 comprise 62 species in the world (Blackman and Eastop, 2023). Most of species are distributed in America and Europe, and three species, *Pleotrichophorus chrysanthemi* (Theobald, 1926), *Pleotrichophorus glandulosus* (Kaltenbach, 1846), and *Pleotrichophorus narzikulovi* (Narzikulov and Umarov, 1969), have been recorded in Asia (Blackman and Eastop, 2023). Most of species in this genus are pale green to yellow bearing numerous short capitate hairs (Corpuz-Raros and Cook, 1974) and are holocyclic on Compositae (Hille, 1953).

Until now, two species have been recorded in South Korea: *P. chrysanthemi* was recorded by Theobald (1926) and *P. glandulosus* was recorded by Paik (1965). From 2019 to 2020, *Pleotrichophorus pseudoglandulosus* (Palmer, 1952) has been newly collected on *Artemisia princeps* Pamp. (Asteraceae) in South Korea. So, in this study, we report apterous viviparous females of *P. pseudoglandulosus* for the first time in South Korea.

### Materials and Methods

Colonies of *P. pseudoglandulosus* had been collected on *A. princeps* from 2019 to 2020. The aphid samples were preserved in 95% alcohol and slide glass specimens were mounted on

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Canada balsam, following the method of Blackman and Eastop (2000) methods. Images and measurements were taken by LEICA (DM3000 LED) and LEICA (CTR6 LED). All specimens were deposited Institute of Agriculture & Life Science, Gyeongsang National University. The following abbreviations are used in morphological features: BL - body length from the head to the end of cauda; We - Width across eyes; Ant.I-VI - antennal segments, respectively; Ant.VIb - antennal segment base of VI; PT - processus terminalis; URS - Ultimate rostrum segment; 1HT - first tarsal segment of hind leg; 2HT - second tarsal segment of hind leg; HTB - hind tibia; AP - Anal plate; SIPH - Sipuncula.

## Taxonomic Accounts

*Pleotrichophorus pseudoglandulosus* (Palmer, 1952) 가는  
쑥못털진딧물(신칭)(Table 1; Figs. 1-2)

*Capitophorus pseudoglandulosus* Palmer, 1952: 250.

*Pleotrichophorus pseudoglandulosus* Hille, 1953: 114.

*Capitophorus frigidae* Knowlton, 1954: 8.

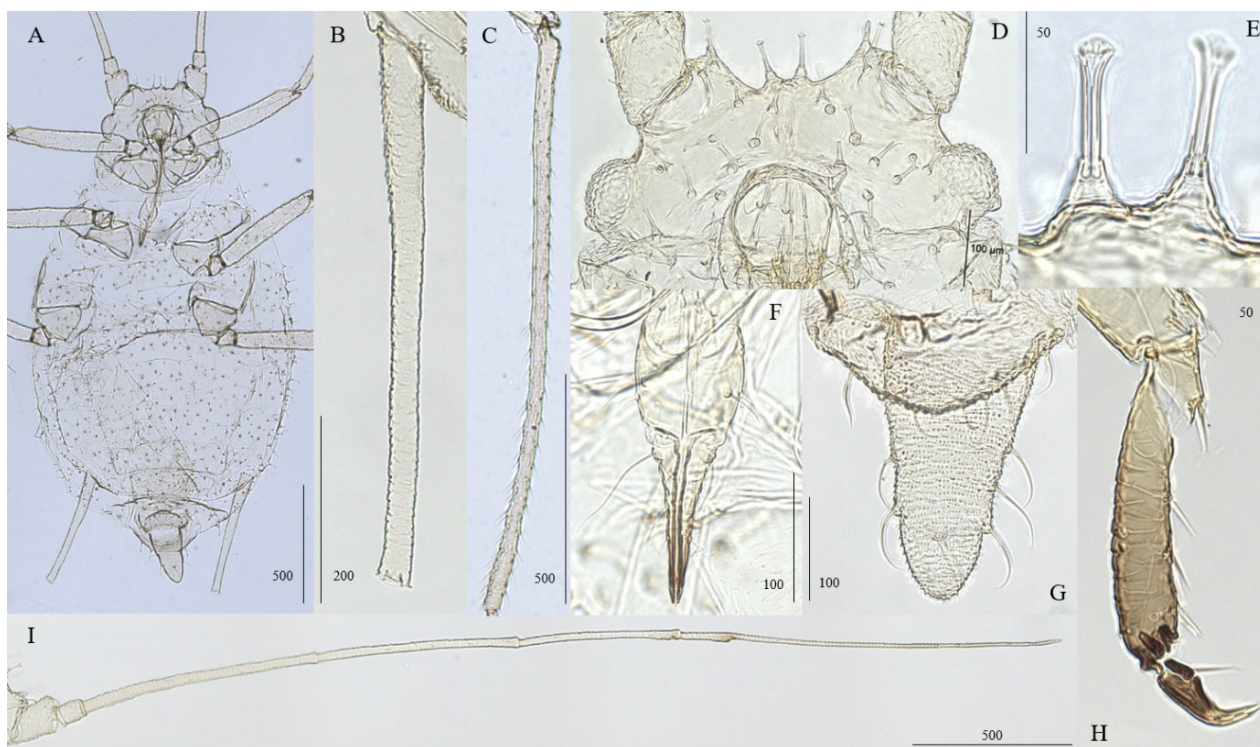
**Description. Apterous viviparous female. Morphology.** Head and thorax light green and yellow (Fig. 2); Body elongated oval, 2.269-2.614 mm long (Fig. 1A); Head weakly sclerotized, moderately produced laterofrontal tubercle small of each antenna near the base, Head with funnel-shaped 26-36 setae (Fig. 1E); We 0.461-0.524 mm long (Fig. 1B); Ant. brown, 6-segmented, Whole Ant., 2.922-3.241 mm long; Ant.III longer than Ant.IV; Ant.I, Ant.II with 6 setae, Ant.III with 19 setae, Ant.IV with 13 setae, Ant.V with 8 setae, Ant.VIb with 3-5 setae, PT with 3-6 setae; Ant.III bearing 1-3 secondary rhinarium; Ant.V bearing one primary rhinaria; Ant.VIb bearing one primary rhinaria with well developed PT (Fig. 1I); Dorsal abdomen integument, densely cover of funnel- to cone-shaped setae; Rostrum reaching the middle Furmorotrochanter, URS cylindrical needle-shaped, both edges are straight or curved inward, with 10 accessory setae, 0.107-0.123 mm long (Fig. 1F); Legs with 3,3,3 hairs on 1st tarsal joints; HTB 1.070-1.435 mm long (Fig. 1C), 2HT 0.114-0.147 mm long, 0.98-1.29 times as long as URS (Fig. 1H); Siphuncula cylindrical-shaped, 0.556-0.687 mm long, 2.33-2.89 times as long as Cauda (Fig. 1B); Anal Plate sclerotized with a total of 10-11

**Table 1.** The biometric data of apterous viviparous females of *Pleotrichophorus pseudoglandulosus*

Body parts	apterous viviparous female (n=12)	
	Mean (Range)	
Length (mm)	BL	2.418 (2.269-2.614)
	We	0.494 (0.461-0.524)
	SIPH	0.609 (0.556-0.687)
	Cauda	0.246 (0.233-0.275)
	HTB	1.342 (1.070-1.435)
	2HT	0.129 (0.114-0.147)
	URS	0.115 (0.107-0.123)
	Ant.	3.106 (2.922-3.241)
	Ant.I	0.122 (0.111-130)
	Ant.II	0.082 (0.068-0.092)
	Ant.III	0.685 (0.609-0.766)
	Ant.IV	0.555 (0.476-0.634)
	Ant.V	0.488 (0.433-0.561)
	Ant.VIb	0.150 (0.129-0.161)
PT	0.996 (0.944-1.069)	
No. of hairs on	Head setae	30 (26-36)
	URS	10 (10-12)
	Ant.I	6 (5-7)
	Ant.II	6 (6-7)
	Ant.III	19 (14-22)
	Ant.IV	13 (12-18)
	Ant.V	10 (8-12)
	Ant.VIb	3.5 (3-5)
	PT	4 (3-6)
	2HT	9.5 (8-10)
No. of rhinaria on	Cauda	5 (5)
	AP	10 (10-11)
	Ant.III	2 (1-3)
Ratio (times)	Ant.V	1 (1)
	Ant.VIb	1 (1)
Ratio (times)	SIPH/Cauda	2.54 (2.33-2.89)
	2HT/URS	1.11 (0.98-1.29)

setae; Cauda 0.233-0.275 mm long, weakly sclerotized with 5 setae (Fig. 1G).

**Materials examined.** 10 apterous viviparous females, Daejeon-si, South Korea, 09.v.2019, on *Artemisia princeps*, D.-K. Park, GNU; 2 apterous viviparous females, Imsil-gun, Jeollabuk-do, South Korea, 11.iv.2020, on *Artemisia princeps*, D.-K. Park, GNU.



**Fig. 1.** Apterous viviparous female of *Pleotrichophorus pseudoglandulosus* (A, Whole body; B, SIPH; C, HTB; D, Head; E, Head setae; F, URS; G, Cauda; H, 2HT; I, Whole Antenna).



**Fig. 2.** Apterous viviparous female of *Pleotrichophorus pseudoglandulosus* on *Artemisia princeps*.

**Host plants.** *Artemisia douglasiana* Besser, *Artemisia frigida* Willd, *Artemisia ludoviciana* Nutt., *Artemisia vulgaris* L., *Artemisia ludoviciana* Nutt. spp *mexicana*, *Artemisia tridentata* Nutt. (Palmer), *Artemisia princeps* Pamp. (new record) (Asteraceae).

**Distributions.** Korea (new record), USA, Canada.

**Remark.** According to Corpuz-Raros and Cook (1974), *P. pseudoglandulosus* is similar to *P. glandulosus*. However, *P. pseudoglandulosus* has much shorter and funnel-shaped posterior body setae than those of *P. glandulosus*. In addition, SIPH/Cauda ratio (2.98 times) of *P. pseudoglandulosus* is higher than that (2.01 times) of *P. glandulosus*.

## Key to species of the genus *Pleotrichophorus* in Korea

1. Ant.V longer than 0.57 mm .....  
..... *Pleotrichophorus glandulosus*  
- Ant.V shorter than 0.57 mm ..... 2
2. SIPH neither noticeably long (less than 0.58 mm) not short (more than 0.49 mm) and their ratio to cauda between 0.66 to 2.3 times ·· *Pleotrichophorus chrysanthemi*  
- Siphuncula either long (at least 0.58 mm) and at least 2.3 times as long as cauda .....  
..... *Pleotrichophorus pseudoglandulosus*

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## Statements for Authorship Position & Contribution

- Lee, H.: Gyeongsang National University, Student in Ph.D;  
Designed the research, wrote the manuscript and examined specimens
- Park, D.-K.: Sunchon National University, Researcher; Collected and examined specimens
- Hong, K.-J.: Sunchon National University, Professor, Ph.D;  
Collected and examined specimens

Lee, W.: Gyeongsang National University, Professor, Ph.D;  
Examined specimens and designed the research

All authors read and approved the manuscript.

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