

## First Record of the Beetle Family Ptilodactylidae Laport (Coleoptera: Byrrhoidea) in Korea

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### Abstract

The beetle family Ptilodactylidae Laport, represented by *Epilichas monticola* Nakane, 1952 and *Ptilodactyla macrophthalma* Nakane, 1963, is identified for the first time in Korea. Photos of adults, redescription and line drawings of diagnostic characters are provided.

**Key words:** *Epilichas monticola*, *Ptilodactyla macrophthalma*, Ptilodactylidae, Coleoptera, taxonomy, Korea

### Introduction

The ptilodactylid beetles, Ptilodactylidae Laport comprises about 500 described species. This family members are found almost from all over the world but absent only in the Chilean subregion and the Palaearctic (except Japan and an introduced species in Italy), Antarctica and the more remote oceanic islands (Ivie 2002). Only 20 species occur in the Palaearctic region, including 18 species in Japan (Satô 2006). Most ptilodactylid larvae feed on decaying vegetation or wood in damp or aquatic situations. Ptilodactylinae larvae are terrestrial, therefore they can be collected with Berlese funnels from moist leaf litter and rotten log. The adults are most commonly taken at lights, but can be beaten from vegetation and occasionally by berlese funnel from the larval habitat in the case of the terrestrial groups (Ivie 2002).

Members of Ptilodactylidae are characterized by the combination of the following features: body elongate-oval to elongate; glabrous to variably clothed with dense to sparse setae; head strongly deflexed; eyes lateral, bulging and round; frontoclypeal suture distinct or not; antennae filiform, serrate, or pectinate, most species sexually dimorphic; strongly ramose from third or four to ten antennomeres in many males; pronotum anteriorly narrowed and rounded, covering head from dorsal view and basal margin crenulate; scutellum cordate; tarsal formula 5-5-5, simple or third tarsomere bilobed, larger than fourth tarsomere; claws simple, toothed or pectinate (Ivie 2002).

In this paper, I report the family Ptilodactylidae, as represented by *Epilichas monticola* Nakane, 1952 and *Ptilodactyla macrophthalma* Nakane, 1963, for the first time in Ko-

rea. Also photos of adults, redescription and line drawings of diagnostic characters are provided.

### Materials and methods

The specimens studied are deposited in Jung's Insect Collection (Seoul, Korea). The detailed morphological characters are carefully examined under stereomicroscopy (M50, DM2500, Leica, Germany) and captured by using digital camera (Canon, Japan).

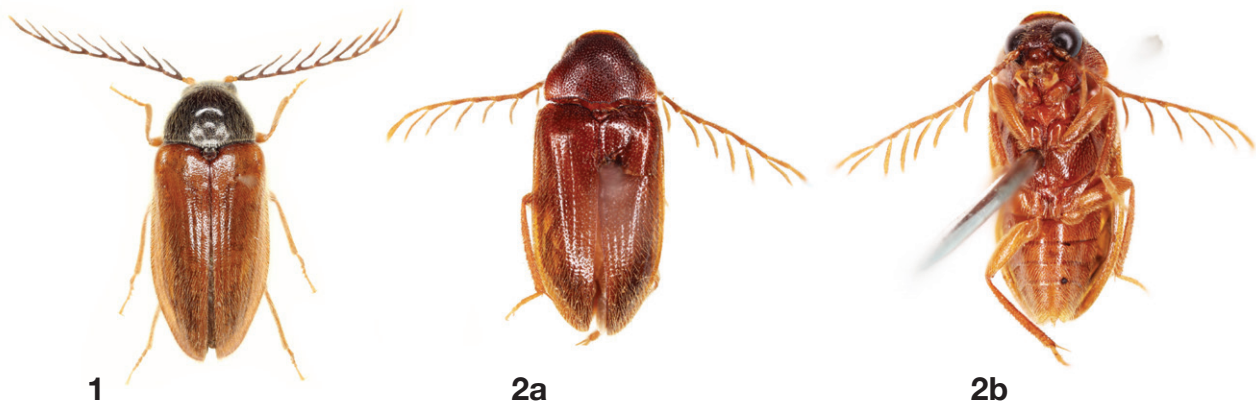
### Taxonomic accounts

Family Ptilodactylidae Laport, 1836 깃털벌레과 (신칭)  
Genus *Epilichas* White, 1859 긴둥근깃털벌레속 (신칭)  
*Epilichas* White, 1859: 290.  
Type species: *Epilichas candezei* White, 1859.

***Epilichas monticola* Nakane, 1952** 긴둥근깃털벌레 (신칭)  
(Figs 1, 4)  
*Epilichas monticola* Nakane, 1952: 36.  
*Epilichas atricolor* Nakane (nec Lewis), 1948: 9.

### Redescription (Male)

Body length 10 mm. Body elongate oblong, convex dorsally, glabrous, covered with yellowish white hairs; head, 2-11 antennomeres and pronotum brownish black; two basal antennomeres, mouthpart (except apical maxillary palpomere somewhat infusate), eytra and legs yellowish brown; ven-



Figures 1, 2. Habitus of Ptilodactylidae. 1. *Epilichas monticola* (male, dorsal); 2. *Ptilodactyla macrophthalma* (male; a. dorsal, b. ventral).

trite reddish brown. Head deflexed, not visible dorsally; densely and finely punctuate; eyes lateral, large, bulging and round; ocular distance almost twice wider than diameter of eyes; antennae 11-segmented, strongly flabellate from second antennomere to tenth antennomere, rami strongly protruding at articulated base of 2-10 antennomeres, ramus distinctly longer than each original antennomere; apical maxillary palpomere securiform, weakly arcuate at apex. Pronotum covering head from dorsal view; trapezoidal, broadest at base and gradually narrowed anteriorly; with dense punctures; basal margin sinuous and strongly crenulate. Scutellum cordate, shallowly impressed in middle part, with a single median notch on mid-basal margin. Elytra oblong, narrowed and rounded from apical 1/5 to apex; weakly punctate-striate, striae broadly, indistinctly and shallowly impressed behind scutellum at sutural part; striae rather distinct from basal 5/2 part to apex; strial punctures irregular and moderate; interval convex, with irregular and fine granular punctures. Leg rather long; femora weakly swollen; tibiae slender, with two short apical spurs; tarsal formula 5-5-5, fifth tarsomere a little shorter than 1-4 tarsomeres combined together; claws simple.

**Specimens examined.** 1♂, Mowho-san, Yucheon-ri, Dongbuk-myeon, Whasun-gun, Jeollanam-do, 25.V.2008, S.-S. Kim.

**Distribution.** Korea (new record), Japan.

**Remarks.** In Japan, body color is typically and mostly black dorsally but some individuals often have color variation (elytra color reddish brown dorsally). Female antennae serrate from fourth antennomere to apex (Nakane 1952).

Genus *Ptilodactyla* Illiger, 1807 깃털벌레속 (신칭)

*Ptilodactyla* Illiger, 1807: 342.

*Falsodaemon* Pic, 1913: 4.

*Hypselothorax* Kirsch, 1866: 188.

*Stenactyla* Fairmaire, 1896: 346.



Figures 3-5. Genitalia and Antenna of Ptilodactylidae (scale bar = 0.1 mm): 3. Genitalia of *Ptilodactyla macrophthalma* (ventral); 4. Antenna of *Epilichas monticola*; 5. Antenna of *Ptilodactyla macrophthalma*.

*Theriomorphus* Pic, 1913: 1.

Type species: *Ptilodactyla elaterina*, Illiger, 1807 (= *Pyrochroa nitida* DeGeer, 1775).

***Ptilodactyla macrophthalma* Nakane, 1963** 눈큰깃털벌레 (신칭) (Figs 2, 3, 5)

*Ptilodactyla macrophthalma* Nakane, 1963: 43.

*Ptilodactyla japonensis* Nakane, 1977: 87.

#### Redescription (Male)

Body length 6.2 mm. Body elongate, convex, glabrous, covered with long yellowish brown hairs; color mostly brown,

mouthpart yellowish brown. Head strongly deflexed, not visible dorsally; densely and finely punctate; eyes lateral, large, bulging and round; ocular distance almost equal to diameter of eyes; frontoclypeal suture distinct; antennae 11-segmented, strongly pectinate, rami strongly protruding at articulated base of 4-10 antennomeres, ramus about twice longer than each original antennomere; apical maxillary palpomere almost cylindrical, weakly enlarged apically and truncated obliquely at apex; apical labial palpomere awl-shape. Pronotum covering head from dorsal view; trapezoidal, broadest at base and gradually narrowed anteriorly; strongly convex at middle part; with coarse and dense granular punctures; anterior margin indistinct; lateral margins moderately rimmed; basal margin sinuous and strongly crenulate. Scutellum cordate, with a single median notch on basal margin. Elytra oblong, narrowed and rounded from apical 1/5 to apex; mostly punctate-striate, striae punctures deep and large; interval convex, with moderate and irregular punctures. Leg rather long; femora swollen; tibiae with two long prominent apical spurs; tarsal formula 5-5-5, third tarsomere bilobed, larger than fourth tarsomere; claws simple. Abdomen with five visible sternites, visible fifth sternite deeply emarginate.

**Specimens examined.** 2♂, Yongsan-ri, Eumseong-eup, Eumseong-gun, Chungcheongbuk-do, 6.VII.1989, J.-I. Kim and O.-J. Kim.

**Distribution.** Korea (new record), Japan.

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