

Four New Species of *Odontepyrus* KIEFFER from  
Taiwan and Korea (Hymenoptera: Bethylidae),  
with a List of the World Species

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**Abstract** Four new species of the genus *Odontepyrus* are described: *taiwanus*, *formosicola* and *liukueiensis* from Taiwan, and *koreanus* from Korea. *Prosierola orientalis* GORBATOVSKY, 1995, from Vladivostok, Russia, is transferred to the genus *Odontepyrus*. A list of the world species is also presented.

**Key words:** Hymenoptera; Bethylidae; *Odontepyrus*; new species; Taiwan; Korea.

**Introduction**

The bethylid wasp genus *Odontepyrus* KIEFFER, 1904, belonging to the subfamily Bethylinae, is distributed in the Old World and Australia, and is represented by 20 species up to present: 2 from the Palaearctic, 3 from the Ethiopian, 4 from the Australian, and 11 from the Oriental regions (POLASZEK & KROMBEIN, 1994; TERAYAMA, 1995; KROMBEIN, 1996). This genus is characterized in the subfamily as follows: 1) antennae with 13 segments; 2) PF=5, 3; 3) notauli absent; 4) mesopleura moderately to strongly expanded; 5) propodeal disc with a pair of pits at basal outer portion; 6) propodeal disc with a median longitudinal carina; 7) propodeal disc with a transverse carina at posterior end; 8) forewing with costal, median, submedian, and discoidal cells (discoidal cell absent in a few species); 9) marginal cell open apically; 10) rs-vein longer than m-vein.

In the course of my study on the bethylid fauna of Asia, I have examined several specimens of *Odontepyrus* from Taiwan and Korea. These represent new records of the genus from both countries. After careful examination, I concluded that these contain four new species, which are described and illustrated herein. A check list of the published species in the world including the new species in the present paper is also provided.

Special terms used in this paper follow those in EVANS (1964, 1978). The following abbreviations are also used in this paper: HL-head length; HW-head width; WF-width of frons; LM-length of mesosoma; LP-length of propodeum; LPD-length of propodeal disc; WPD-width of propodeal disc; FWL-forewing length; TL-total body length; EL-eye length; OOL-shortest distance from a

posterior ocellus to nearest eye margin; WOT-distance across and including posterior ocelli; NSMT-National Science Museum, Tokyo; PMA-Provincial Museum of Alberta, Canada; NIAES-National Institute of Agro-Environmental Sciences, Tsukuba.

*Genus* <sup>o</sup>*odontepyris* KIEFFER

*Odontepyris* KIEFFER, 1904, *Ann. Mus. Civ. Stor. Nat. Gen.*, **41**: 378. (Type species: *Odontepyris flavinervis* KIEFFER, 1904)

*Trissomalus* KIEFFER, 1905, *Ann. Soc. Sci. Bruxelles*, **29**: 105. (Type species: *Goniozus transvaalensis* BUYSSON, 1897) [Synonymized by POLASZEK & KROMBEIN, 1994.]

*Odontepyris taiwanus* sp. nov.

(Figs. 1, 6, 7)

*Holotype*. Female. HL 1.38 mm; WH 1.55 mm; WF 0.95 mm; LM 2.40 mm; LPD 0.58 mm; WPD 1.05 mm; FWL 3.2 mm; TL 5.8 mm.

Body including mandibles blackish brown; antennae blackish brown excepting scape black; coxae and femora black; tibiae brown; wings subhyaline, tinged with brown.

Head  $0.89\times$  as long as wide, with convex posterior margin in frontal view; frons and vertex microreticulate and densely punctate; punctures separated by  $0.5-1.0\times$  their own diameters. Mandibles each with 4 teeth. Anterior clypeal margin strongly produced, with narrowly rounded apical margin. First 5 antennomeres in a ratio of 8 : 3 : 4 : 3 : 3 in length; 2nd segment  $1.4\times$  as long as wide; 3rd segment long,  $2.0\times$  as long as wide; 4th and 5th segments each slightly longer than wide. Eyes 0.68 mm in length; WF  $1.4\times$  EL. Front angle of ocellar triangle acute; OOL  $2.0\times$  WOT.

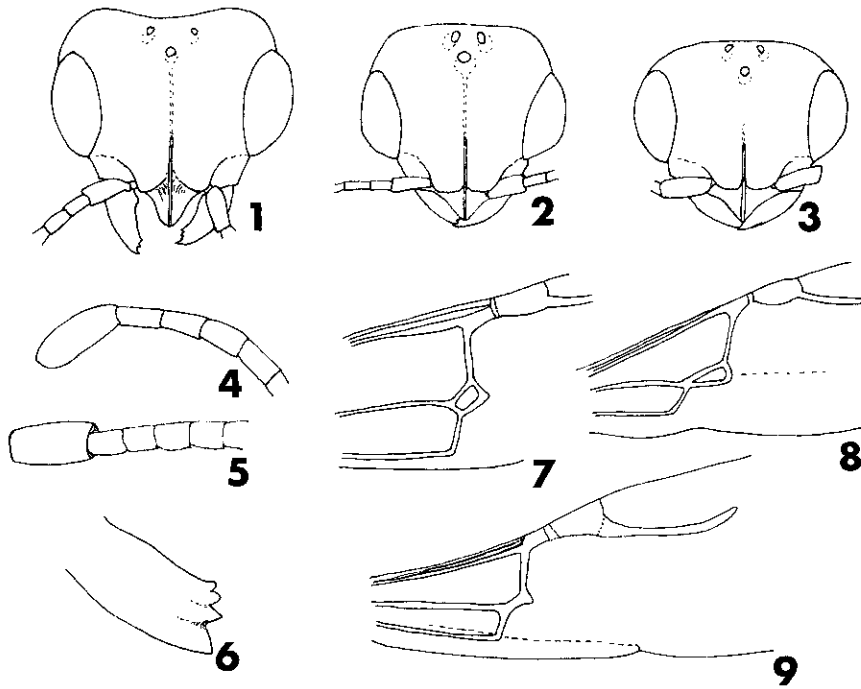
Pronotal disc  $0.59\times$  as long as wide, microreticulate and moderately punctate, with slightly convex anterior margin; anterolateral corners rounded, not forming an angle; lateral margins carinate. Mesonotum microreticulate with punctures. Propodeal disc  $0.55\times$  as long as wide, with concave posterior margin and subparallel sides in dorsal view; outer discal carinae converging toward the posterior end; median area reticulate; sublateral areas transversely striate.

Gastral tergites smooth and shining; 2nd gastral sternum with sparse large punctures; 3rd to 5th sterna largely smooth and shining; 6th sternum with small close punctures.

Forewing with a rectangular discoidal cell as in Fig. 7.

*Holotype*. Female, Chipon-Wenquan, Taiwan, 8. VIII. 1980, M. TERAYAMA leg. [NIAES.]

*Paratype*. One female, Baibara (Meiyuen), Taiwan, 25. IV. 1929, K.



Figs. 1-9. *Odontepyris* spp. from Taiwan, female — 1, 6, 7, *O. taiwanus* sp. nov.; 2, 4, 8, *O. formosicola* sp. nov.; 3, 5, 9, *O. liukueiensis* sp. nov. — 1-3, head, frontal view; 4, 5, first to 5th antennal segments; 6, mandible; 7-9, forewing venation.

SATO leg. [NSMT.]

*Remarks.* The present species is easily separated from the other congeners in having the concave posterior margin of head, rectangular discoidal cell of forewing, and punctate 2nd and 6th gastral sterna.

*Odontepyris formosicola* sp. nov.

(Figs. 2, 4, 8)

*Holotype.* Female. HL 1.03 mm; HW 1.00 mm; WF 0.60 mm; LM 1.40 mm; LPD 0.48 mm; WPD 0.70 mm; FWL 2.9 mm; TL 4.2 mm.

Body black; mandibles and antennae yellowish brown; coxae and femora dark brown; tibiae and tarsi yellowish brown; wings subhyaline, tinged with brown.

Head as long as wide, with straight posterior margin in frontal view; frons and vertex microreticulate with shallow weak punctures moderately; punctures separated by about  $1.0\times$  their own diameters. Median lobe of clypeus narrow, forming an acute triangle. First 5 antennomeres in a ratio of 18 : 10 : 9 : 9 : 9 in

length; 2nd segment  $1.5 \times$  as long as wide; 3rd  $1.5 \times$  as long as wide; 4th and 5th segments each longer than wide. Eyes 0.45 mm in length; WF  $1.33 \times$  EL. Ocelli forming an acute triangle; OOL  $1.89 \times$  WOT.

Pronotal disc  $0.44 \times$  as long as wide, microreticulate, with shallow weak punctures moderately; lateral margins not carinate. Mesonotum microreticulate. Propodeal disc  $0.69 \times$  as long as wide, with subparallel sides; posterior margin notched in the middle; median area weakly depressed and with oblique rugae; a pair of parallel outer discal carinae present; sublateral areas with transverse rugulae.

Gastral tergites smooth and shining; 2nd to 6th gastral sterna largely smooth and shining, without fine punctures.

Forewing with an acute triangular discoidal cell as in Fig. 8.

*Holotype.* Female, Benbuchi, Nantou Hsien, Taiwan, 18. VIII. 1980, T. NAMBU leg. [NIAES.]

*Paratype.* One female, Wushe (1200 m alt.), Nantou Hsien, Taiwan, 16. III. 1983, H. & M. TOWNES leg. [PMA.]

*Remarks.* This species is separated from the other congeners by the shape of head, parallel outer discal carinae on propodeum, and acute triangular discoidal cell of forewing.

*Odontepyris liukueiensis* sp. nov.

(Figs. 3, 5, 9)

*Holotype.* Female. HL 0.81 mm; HW 0.93 mm; WF 0.60 mm; LM 1.23 mm; LPD 0.38 mm; WPD 0.58 mm; FWL 2.2 mm; TL 3.1 mm.

Body black; mandibles blackish brown; antennae brown excepting scape blackish brown; legs dark brown; forewings subhyaline, tinged with brown.

Head wider than long,  $1.15 \times$  as long as wide, with almost straight posterior margin; frons microreticulate with shallow punctures moderately; punctures separated by  $1.0\text{--}1.5 \times$  their own diameters. Mandibles each with 4 teeth. Anterior margin of clypeus forming an obtuse triangle. First 5 antennomeres in a ratio of  $5 : 2 : 2 : 2 : 2$  in length; 2nd to 5th segments each almost  $1.2 \times$  as long as wide. Eyes 0.38 mm in length; WF  $1.58 \times$  EL. Ocelli forming an acute triangle; OOL  $1.54 \times$  WOT.

Pronotal disc  $0.44 \times$  as long as wide, microreticulate with very weak punctures sparsely; microreticulum weaker than that on head; lateral margins carinate. Mesonotum weakly microreticulate and impunctate. Propodeal disc  $0.66 \times$  as long as wide, with parallel sides and straight posterior margin in dorsal view; outer discal carinae converging toward the posteriormost; median and sublateral areas with oblique rugae.

Gastral tergites smooth and shining; 2nd to 6th gastral sterna largely

smooth and shining, without fine punctures.

Forewing without discoidal cell; a very short stub of vein arising from posterior most of rs-vein.

*Holotype.* Female, Liukuei, Taiwan, 29. IV. 1971, N. FUKUHARA leg. [NIAES.]

*Remarks.* This species resembles *O. ventralis* KROMBEIN, 1996, from Sri Lanka by the absence of discoidal cell of forewing. However, it is easily distinguished from the latter by the smooth and shining 2nd and 6th gastral sterna.

*Odontepyris koreanus* sp. nov.

(Figs. 10–12)

*Holotype.* Male. HL 0.83 mm; HW 0.90 mm; WF 0.55 mm; LM 1.38 mm; LPD 0.38 mm; WPD 0.63 mm; FWL 2.6 mm; TL 4.4 mm.

Body black; mandibles yellowish brown; upperside of antennae dark brown, underside yellowish brown; coxae and femora blackish brown to almost black; trochanters, tibiae and tarsi yellowish brown; wings subhyaline, tinged with brown.

Head slightly wider than long, with almost straight posterior margin and dully angulate posterolateral corners in frontal view; frons and vertex strongly microreticulate and with shallow weak punctures; punctures separated by 1.5–2.0× their own diameters. Median lobe of clypeus narrow, forming an acute triangle. First 5 antennomeres in a ratio of 9 : 3.5 : 4.5 : 5 : 5 in length; 2nd segment slightly longer than wide; 3rd 1.5× as long as wide; 4th segment relatively long, 1.7× as long as wide; 5th segment 1.5× as long as wide. Eyes 0.40 mm in length; WF 1.38×EL. Ocelli relatively large, forming a right triangle; OOL 1.43×WOT.

Pronotal disc microreticulate, 0.67× as long as wide; lateral margins not carinate. Mesonotum microreticulate. Propodeal disc 0.60× as long as wide, with straight posterior margin; a pair of outer discal carinae present; median area reticulate; sublateral areas with transverse rugae.

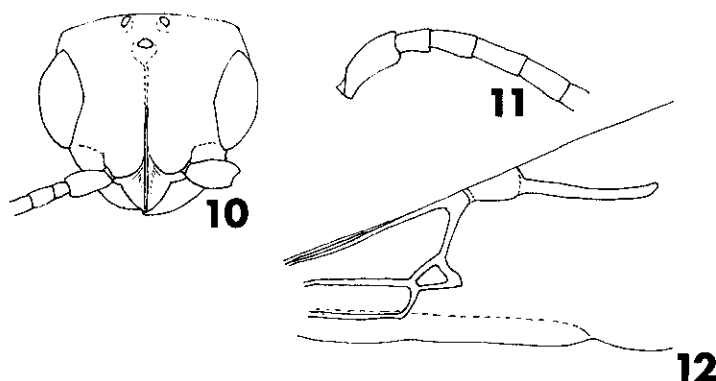
Gasteral tergites smooth and shining; 2nd gastral sternum with scattered, tiny piliferous tubercles; 3rd to 6th sterna weakly microreticulate and subopaque.

Forewing with a trapezoidal discoidal cell as in Fig. 12.

*Holotype.* Male, Mt. Sudo-san, Kyongsangpuk-do, (400m alt.), Korea, 23. VIII. 1990, K. YAMAGISHI leg. [PMA.]

*Paratype.* One male, same locality as holotype, 17–18. VII. 1971, K. YAMAGISHI leg. [NIAES.]

*Remarks.* *Prosierola orientalis* GORBATOVSKY, 1995, from Vladivostok,



Figs. 10–12. *Odontepyris koreanus* sp. nov., male — 10, head, frontal view; 11, first to 5th antennal segments; 12, forewing venation.

Russia, is undoubtedly a member of the genus *Odontepyris* by the presence of discoidal cell, long rs-vein, and presence of a median longitudinal carina on propodeum. Therefore, I transfer this species to the genus *Odontepyris* (**comb. nov.**). *Koreanus* may most resembles *orientalis*. However, it is easily separated from the latter by the relatively large and trapezoidal discoidal cell of forewing. It is also separated from 2 other Palearctic species, *O. erucarus* (SZELÉNYI, 1958) from Hungary and Romania, and *O. moldavicus* (NAGY, 1976) from Moldavia, by the relatively large and trapezoidal discoidal cell of forewing, black body, and yellowish brown tibiae.

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**Appendix.** A list of species of *Odontepyris* KIEFFER in the world.

1. *argyriae* KURIAN, 1954  
*Odontepyris argyriae* KURIAN, 1954, *Agra Univ. J. Res. Sci.*, 3: 437.  
Distribution: India.
2. *batrae* KURIAN, 1955  
*Odontepyris batrae* KURIAN, 1955, *Agra Univ. J. Res. Sci.*, 4: 130.  
Distribution: India.
3. *cameroni* (KIEFFER, 1914)  
*Trissomalus cameroni* KIEFFER, 1914, *Das Tierreich*, 41: 517.  
*Odontepyris cameroni*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, 3: 98. [Transferred.]  
Distribution: South Africa.
4. *cirphi* KURIAN, 1955  
*Odontepyris cirphi* KURIAN, 1955, *Agra Univ., J. Res. Sci.*, 4: 132.  
Distribution: India.
5. *erucarum* (SZELÉNYI, 1958)  
*arasierola erucarum* SZELÉNYI, 1958, *Ann. Hist.-Nat. Mus. Hung.*, 50: 269.  
*Prosierola erucarum*: NAGY, 1976, *Rev. Roum. Biol. Ser. Biol. Anim.*, 21: 104. [Provisionally transferred.]; Tryapitsyn, 1978, *Identification of the Insects of the European Part of the USSR*, Vol. 3, Part 2; 10.  
*Goniozus erucarum*: GORDH & MOCZAR, 1990, *Mem. Am. Entomol. Inst.*, 46: 14. [Listed.]  
*Odontepyris erucarum* [sic.]: POLASZEK & KROMBEIN, 1994. *J. Hym. Res.*, 3: 98.  
Distribution: Hungary, Romania.
6. *flavinervis* KIEFFER, 1904  
*Odontepyris flavinervis* KIEFFER, 1904, *Ann. Mus. Civ. Stor. Nat. Genova, Ser. 3*, 1 (41): 378.  
*Odontepyris flaviventris*: KIEFFER, 1914, *Das Tierreich*, 41: 546. [Lapsus.]  
Distribution: Indonesia (Sumatra).
7. *formosicola* TERAYAMA, 1997  
Present paper.

- Distribution: Taiwan.
8. *fuscicrus* (KIEFFER, 1907)  
*Trissomalus fuscicrus* KIEFFER, 1907 ("1906"), *Ber. Entomol. Zeit.*, **51**: 294.  
*Odontepyris fuscicrus*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 98. [Transferred.]  
Distribution: Australia.
  9. *hypsipyrae* (KURIAN, 1955)  
*Goniozus hypsipyrae* KURIAN, 1955, *Agra Univ. J. Res. Sci.*, **4**: 119.  
*Odontepyris hypsipyrae*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 98. [Transferred.]  
Distribution: India.
  10. *indicus* (KURIAN, 1954)  
*Trissomalus indicus* KURIAN, 1954, *Agra Univ. J. Res. Sci.*, **3**: 426.  
*Odontepyris indicus*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 98. [Transferred.]  
Distribution: India.
  11. *koreanus* TERAYAMA, 1997  
Present paper.  
Distribution: Korea.
  12. *liukueiensis* TERAYAMA, 1997  
Present paper.  
Distribution: Taiwan.
  13. *mandibularis* KROMBEIN, 1996  
*Odontepyris mandibularis* KROMBEIN, 1996, *Smith. Cont. Zool.*, (579): 10.  
Distribution: Sri Lanka.
  14. *moldavicus* (NAGY, 1976)  
*Prosierola moldavica* NAGY, 1976, *Rev. Roum. Biol. Ser. Biol. Anim.*, **21**: 103.  
*Odontepyris moldavicus*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 98. [Transferred.]  
Distribution: Moldavia.
  15. *musebecki* KROMBEIN, 1996.  
*Odontepyris musebecki* KROMBEIN, 1996, *Smith. Cont. Zool.*, (579): 10.  
Distribution: Sri Lanka.
  16. *orientalis* (GORBATOVSKY, 1995)  
*Prosierola orientalis* GORBATOVSKY, 1995, *Key to the Insects of Russian Far East in Six Volumes*, Vol. 4, Part 1: 186.  
*Odontepyris orientalis*: Present paper.  
Distribution: Russia (Vladivostok).
  17. *quadrioveatus* (MUESEBECK, 1934)  
*Parasierola quadrioveata* MUESEBECK, 1934, *Rec. Ind. Mus.*, **36**: 227.  
*Goniozus quadrioveatus*: GORDH, 1988 ("1986"), *Indian J. Entomol.*, **48**: 363. [Transferred.]  
*Odontepyris quadrioveatus*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 98. [Transferred.]



- Distribution: India, Sri Lanka.
18. *ruficeps* KIEFFER, 1907  
*Odontepyris ruficeps* KIEFFER, 1907 ("1906"), *Ber. Entomol. Zeit.*, **51**: 292.  
 Distribution: Australia.
19. *ruficrus* KROMBEIN, 1996  
*Odontepyris ruficrus* KROMBEIN, 1996, *Smith. Cont. Zool.*, (579): 9.  
 Distribution: Sri Lanka.
20. *peringueyi* (KIEFFER, 1913)  
*Trissomalus peringueyi* KIEFFER, 1913, *Boll. Lab. Zool. Gen. Agrar. Portici*, **7**: 326.  
*Odontepyris peringueyi*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 98.  
 [Transferred.]  
 Distribution: South Africa.
21. *taiwanus* TERAYAMA, 1997  
 Present paper.  
 Distribution: Taiwan.
22. *transvaalensis* (BUYSSON, 1888)  
*Goniozus transvaalensis* BUYSSON, 1888, *Ann. Soc. Entomol. Fr.*, **66**: 354.  
*Trissomalus transvaalensis*: KIEFFER, 1914, *Das Tierreich*, **41**: 517. [Transferred.]  
*Odontepyris transvaalensis*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 98.  
 [Transferred.]  
 Distribution: South Africa.
23. *ventralis* KROMBEIN, 1996  
*Odontepyris ventralis* KROMBEIN, 1996, *Smith. Cont. Zool.*, (597): 10.  
 Distribution: Sri Lanka.
24. *waterhousei* (KIEFFER, 1907)  
*Parasierola waterhousei* KIEFFER, 1907 ("1906"), *Ber. Entomol. Zeit.*, **51**: 293.  
*Goniozus waterhousei*: GORDH & MOCZAR, 1990, *Mem. Am. Entomol. Inst.*, **46**: 31.  
 [Listed.]  
*Odontepyris waterhousei*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 99.  
 [Transferred.]  
 Distribution: Australia.
25. *xanthoneurus* (KIEFFER, 1911)  
*Parasierola xanthoneurus* KIEFFER, 1911, *Ann. Soc. Sci. Bruxelles*, **35**: 207.  
*Goniozus xanthoneurus*: GORDH & MOCZAR, 1990, *Mem. Am. Entomol. Inst.*, **46**: 32. [Listed.]  
*Odontepyris xanthoneurus*: POLASZEK & KROMBEIN, 1994, *J. Hym. Res.*, **3**: 99.  
 Distribution: Australia.

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