

한국산 *Camptorhinus*속 성충과 유충에 관한 연구*
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Description on the Larva and Adult of Genus *Camptorhinus*
(Coleoptera: Curculionidae) in Korea*
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요 약

본 연구는 *Camptorhinus*속의 유충 1종과, 국내미기록종 *Camptorhinus dorsalis* 성충의 형태적 특징을 기술하였다.

ABSTRACT

This study was carried out to describe the morphological features of adult of *Camptorhinus dorsalis* (new to Korea) and larva of *Camptorhinus* sp.

Key words : *Camptorhinus*, *Curculionidae*, *morphological features*, *Korea*

INTRODUCTION

The Genus *Camptorhinus* was established by Schonherr(1825) with *Curculio statua* Fabricius(1792) as the type species(Alonsozarzaga and Lyal, 1999). The *Camptorhinus* are a genus of the Camptorhinini (Curculionidae: Cryptorhynchinae) and contains 53 species from Japan, South of Russian Far East, Caucasus, N. Africa, Europe, Afrotropical, Oriental and Australian Region, Solomon Is., Marianas Is., and Korea(Morimoto,

1986). In Korea, only two species have been recorded from Korea(Hong et al., 2000). In this paper, we described to *Camptorhinus dorsalis* that new to Korea and larva of *Camptorhinus* sp.

MATERIALS AND METHODS

The morphological features of the body of larva in alcohol were examined. Then, they were macerated in 10% KOH for

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several minutes and dissected under stereoscopic microscope(40×). The head capsule with attached mouthparts was first removed from the body by a cut made with a fine forceps around the edges of the occipital foramen. The maxillae and labium as a unit were removed from the head capsule. The head was sketched under this condition from dorsal and ventral sides. Then the mandibles with attached tendons were removed from the head capsule. Mouthparts and skins were mounted on microscopic slides for detailed examinations(100× or 150×).

The nomenclature of larvae setae and puncture follows Hinton(1946), and the terminology of labrum, maxillary lobe, and palpi follows Heinrich(1916), Grimes and Neunzig(1986).

The morphological features of the body of adult were observed and illustrated using the Nikon SMZ-2T stereomicroscope.

The body length was measured from the anterior margin of pronotum to the end of elytra(head length was excluded in the body length, the measuring point of apex is indistinct because of drooping the head). Body width was measured at the widest part of elytra(elytra always wider than the other parts of body). Terminology adopted in this study was follows Morimoto (1962).

The genitalia were prepared by the following methods.

- 1) The dried specimens were placed in 70~90°C distilled water for 3~5 minutes and were relaxed.
- 2) The genitalia removed through the crack of sectioned tergites.
- 3) The genitalia was placed in 15%

solution of KOH for 5~10minutes.

- 4) Then the genitalia was washed in distilled water and soaked in 70% solution of ethyl alcohol.
- 5) The isolated clean genitalis in the solution was examined and drawn under the stereomicroscope.
- 6) After examination, the genitalia was preserved in a micro tube containing glycerin.

DESCRIPTION OF *Camptorhinus dorsalis* (BOISDUVAL)

Derm black, with greyish to brownish scaling.

Rostrum weakly curved, shiny excepting the scaled base, separately punctate, with a median carina excepting the apex.

Antennae with second segment of funicle subequal to first in length.

Prothorax strongly swollen in male, less so in female. Fore tibiae and basal two segments of fore tarsi with long setae in male, tibiae angulate internally at basal third. Post-coxal portion of pectoral canal not produced posteriorly beyond the basal margin of prothorax. Prothorax often with a small black scaly patch just below the hind angle of pronotum on each side, which does not extend onto eltron nor to mesepimeron.

Legs broader, middle tibiae and tarsi not fringed with long setae, hind tibiae weakly but distinctly angulate internally at basal third.

Male aedeagus with penis robust, parallel-sided, with a pair of dens hair tufts at apex ventrally.

Length: 4.8-9.0 mm.

Materials examined: Gangwon-do, 28. vii. 2000 (♂), 2 ex.; 28. vii. 2000 (♀), 1 ex.

Biological note: This species was collected from woods of *Quercus* spp. by light trap

***Camptorhinus* sp.**

Body very stout.

Head deeply retracted into thorax, distinct longer than wide. Anterior ocellus present. Antenna slender, with an narrow conical segment. Catapophyses in same plane as frons. Hypopharyngeal bracon readily discernible. Frontal suture distinct. Endocarina distinct, approximately one-half as long as frons. Frons with five pairs of setae, setae 1, 2 and 3 short, subequal, 4 and 5 long, subequal. Dorsal epicranial setae 1, 3 and 5 long, subequal, 2 and 4 short, subequal. Lateral epicranial seta 1 moderately long, 2 long. Ventral epicranial setae short to moderately long, subequal. Four minute posterior epicranial setae present in middle of dorsal epicranium. Clypeus very large, with seta 1 and 2 moderately long, subequal. Anterior margin of labrum trilobed, postermargin extended into clypeal zone, with a hexagonal basal pigmented area. Labral setae 1 and 2 short to moderately long, nearly twice as long as 3. Median and paired lateral sensilla present on labrum. Labral rods moderately short, stout and subparallel. Epipharynx with three anterolateral setae, six anteromedian setae and four median spines. Epipharyngeal sensory pores in two clusters. Epipharynx asperate. Mandible with blunt apex,

without distinct teeth, longer than wide. Mandibular seta 1 short, slightly longer than and directly behind 2. Labial palpus with two segments, basal segment twice as long as wide. premental sclerite irregular. Postmentum with three pairs, setae moderately long, subequal. Maxillary palpus with two segments, basal segment without accessory process, twice as long as wide, apical segment without lateral seta. mala with five ventral and seven dorsal setae.

Pronotum large, with ten setae, with a transvers brown smooth area on anterior one-third, which has five pale breaks from anterior margin to two-third of its length, posterior two-thirds of pronotum with coarse dense brownish asperities, asperate area also has five narrow smooth breaks. Thoracic spiracle bicameral, paired air-tubes small or minute and directed dorsally, peritreme broadly oval to circular. Prodorsum of meso- and metathorax with one short seta. Postdorsum of meso- and metathorax with four setae, setae 1 and 2 short, 3 and 4 moderately long, subequal. Alar area with one short seta. Spiracular area with one short and long seta. Epipleurum with a long seta. Pleurum of prothorax with two long setae, of meso- and metathorax with a long seta. Pedal area with seven setae, one long, one very short, the remainder short. Sternal setae subequal to eusternal setae.

Abdomen with eight pairs of spiracles. Spiracles all lateral, bicameral, about half as large as those of pronotum in diameter, paired air-tubes small or minute and directed dorsally, with four to five annulets. Typical abdominal segment with three dorsal folds. Prodorsum with one short

seta. Postdorsum segments with five setae, setae 1, 3 and 5 short, subequal, 2 and 4 long, subequal. Spiracular area with two setae, seta 1 very short, seta 2 short. Epipleurum with two setae, one other slightly longer. Pleurum with two setae, one short, the other slightly longer. Pedal area with one short seta. Eusternum with two very short setae. Sternellum present. Anus terminal, with four lobes, lateral lobes large.

Width of head: 2.3 mm.

Materials examined: Gangwon-do, 5. xii. 1995.

Biological note: This species was collected in an tubercle on the bark of a large living tree of *Quercus* spp.

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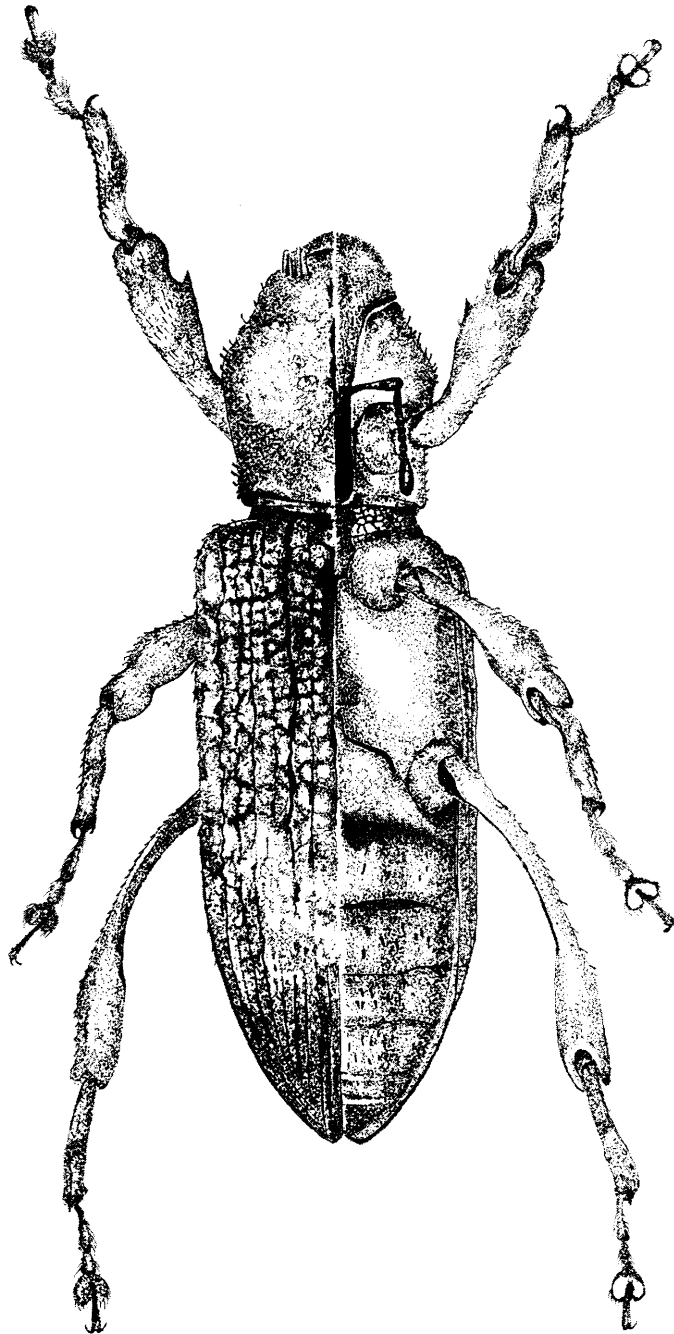


Fig. 1. *Camptorhinus dorsalis* (BOISDUVAL), female, dorsal and ventral.
Scale = 1mm.

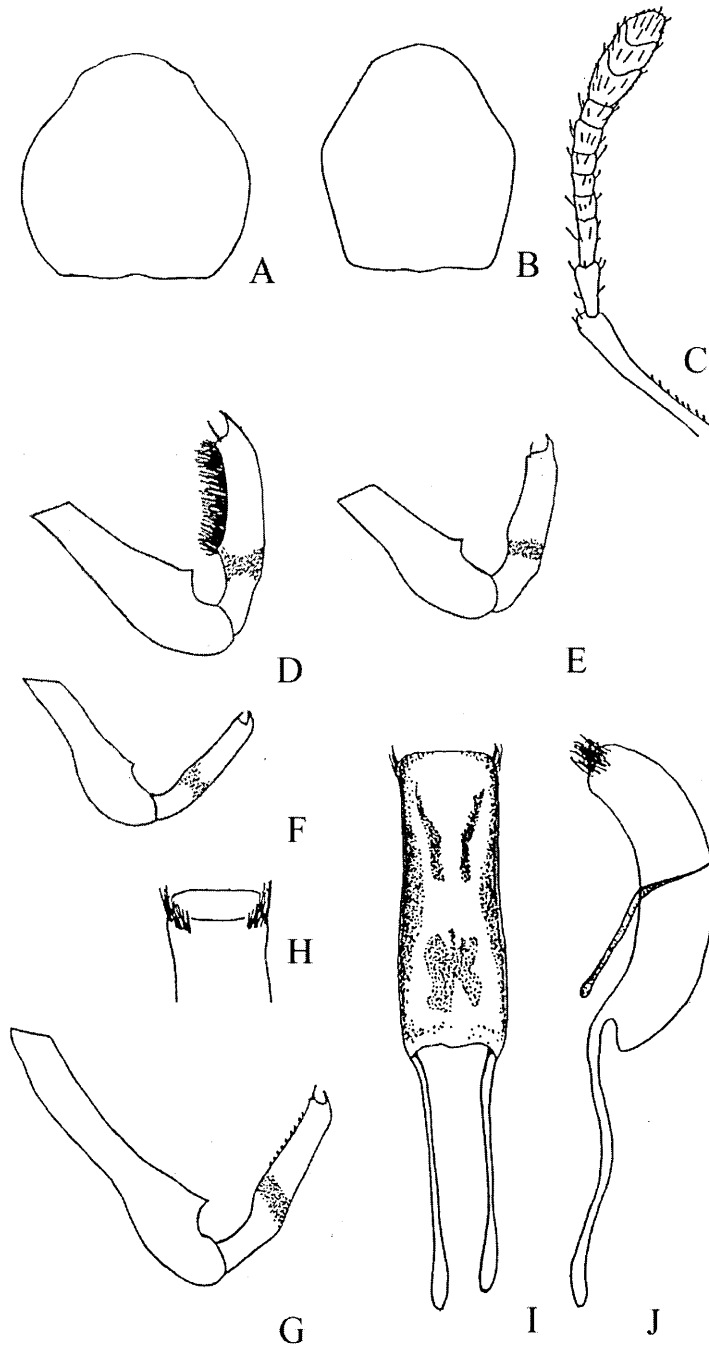


Fig. 2. *Camptorhinus dorsalis* (BOISDUVAL).

A: Porthorax, dorsal, male. B: Porthorax, dorsal, Female. C: Antenna. D: Fore leg, male. E: Fore leg, female. F: Middle leg, male. G: Hind leg, male. H: Apical part of penis, ventral. I: Penis, dorsal. J: Penis, lateral.

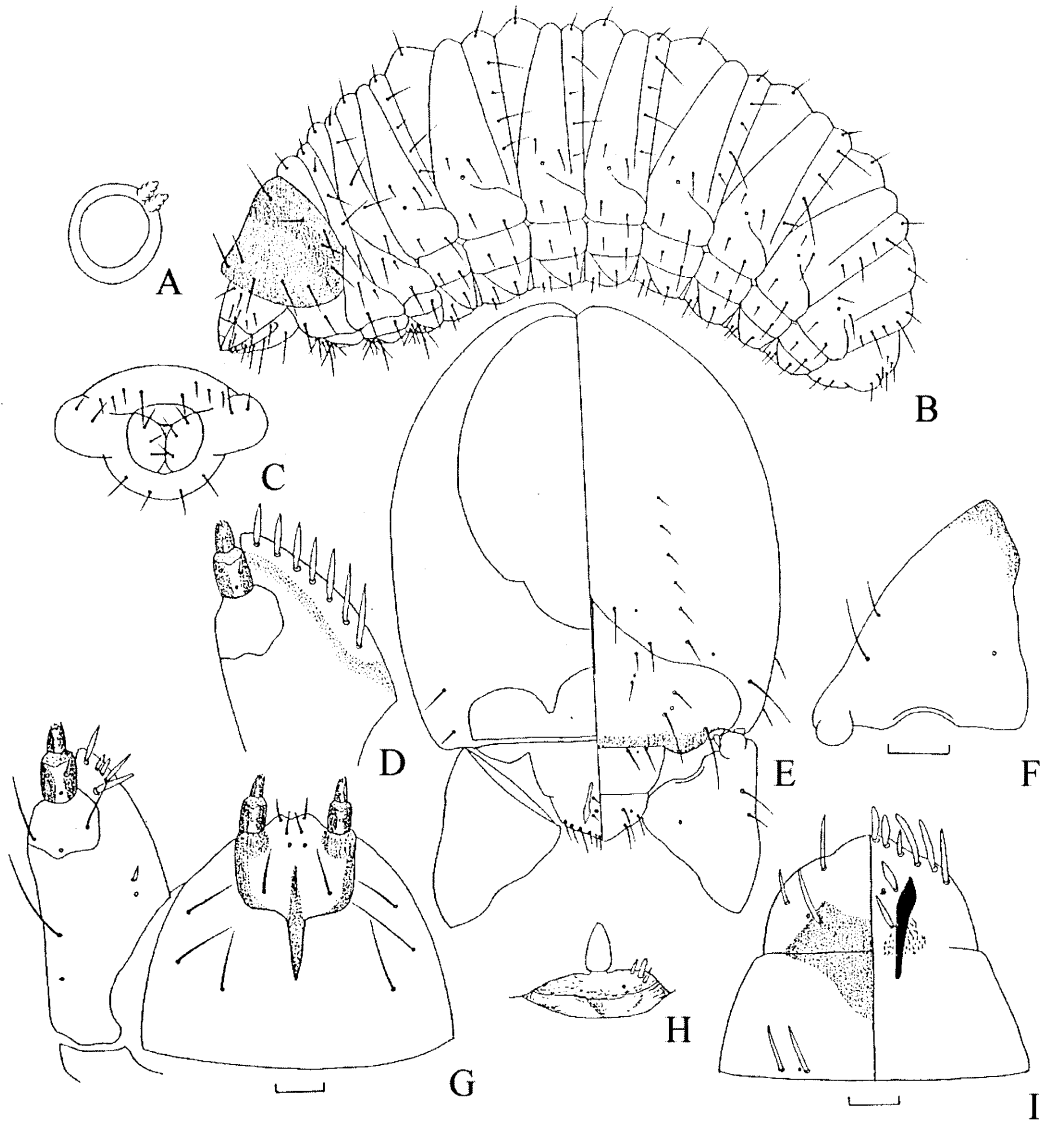


Fig. 3. *Camptorhinus* sp.

A: Spiracle. B: Mature larva. C: Maxilla, dorsal. E: Head, F: Mandible. G: Maxilla and labium. H: Antenna. I: Labrum and epipharynx. Scale: 0.2mm.