

Taxonomic Study of the Larvae of the Genus *Podontia* (Coleoptera: Chrysomelidae: Alticinae) from Vietnam

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Abstract – The mature larvae of *Podontia affinis* (Grondal), *P. dalmani* Baly, and *P. lutea* (Olivier) collected Vietnam are described and illustrated for the first time exception of *P. dalmani*. Their taxonomic remarks are also given. [Larvae, *Podontia*, Alticinae, Chrysomelidae].

INTRODUCTION

Alticine larvae including many forest and agricultural pest were studied by many workers from the morphology and biological aspects. Ogloblin & Medvedev (1971) Kimoto & Takizawa (1994) and Steinhausen (1994) studied many genera of alticine larvae taxonomically using the characters of pycnial shield and chaetotaxy. And some miscellaneous works were accomplished by many other workers (Reed, 1927; Boving & Craighead, 1931; Newton, 1933; Anderson 1938; Paterson, 1943; Dobson, 1960; Yano 1963, 1965; Ogloblin & Medvedev, 1971; Welch 1972; Lee, 1992 etc.). The larval morphology of genus *Podontia* is still unknown except *Podontia dalmani* by Medvedev (1992). The present author describes and illustrates the mature larvae belonging to genus *Podontia* of Alticinae collected Vietnam; *Podontia affinis*, *P. dalmani* and *P. lutea*.

MATERIALS AND METHODS

All materials were collected and preserved in 70% ethyl alcohol. The larvae were macerated in KOH solution for 30 minutes, rinsed in water and dissected under a stereoscopic microscope (Olympus). For detailed morphological studies on the various parts of larva, compound microscope (Leitz) were used. The terminology for chaetotaxy used in this study follows Anderson (1947).

Larval Descriptions

Genus *Podontia*

Podontia affinis (Grondal)

(Fig. 1)

Mature larva. Body pale brown, strongly convex, C-shaped; head, mandibles, legs, antennae, spots, pronotum and spiracles blackish brown.

Head. Hypognathous, rounded, strongly sclerotized; frontal suture broadly divergent and slightly sinuate; frons with 4 pairs of frontal setae; epistomal suture developed; stemmata 1 in number on each side; antenna 1-segmented, segment with a large conical sensory papilla, 9 setae and 2 sensilla; clypeus with 4 pairs of clypeal setae; labrum abruptly incised in the middle of anterior, wave shaped, with 2 pairs of labral setae and 1 pair of labral sensilla; epipharynx with 6 pair of epipharyngeal setae; hypopharynx with numerous spine; mandible rectangular shape, strongly sclerotized, upper side reddish brown, with 4 distal teeth and 2 mandibular setae; maxillary palp 3-segmented, segment 1 without seta, segment 2 with 2 setae and 1 sensillum, segment 3 with 1 sensillum; palpifer with 3 setae; stipes with 3 setae and with numerous microsetae on antero-lateral parts; cardo with 1 seta; galea with 10 setae; lacinia with tightly bunched group of 6 setae located behind galea; labial palp 2-segmented; prementum and postmentum separated by narrow sclerotized membrane; prementum

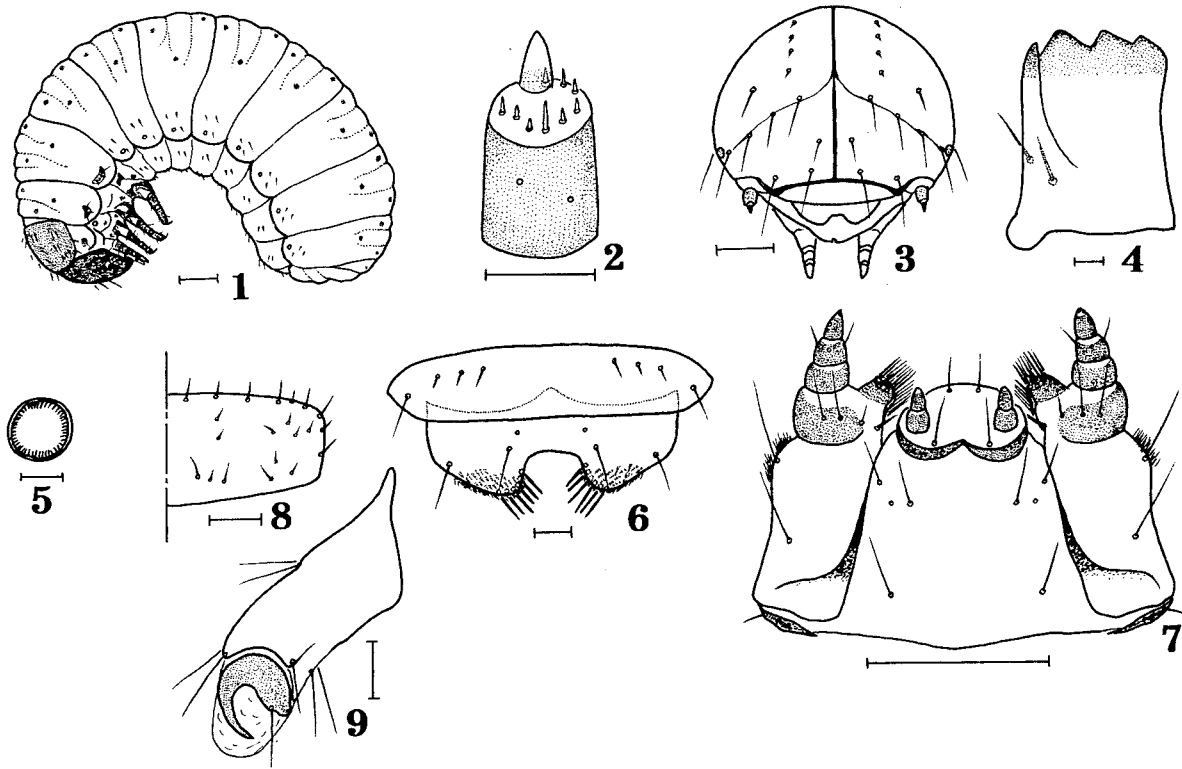


Fig. 1. *Podontia affinis*: (1) mature larva, lateral view; (2) antenna, dorsal view; (3) head, dorsal view; (4) mandible, buccal view; (5) spiracle, dorsal view; (6) clypeus, labrum and epipharynx, dorsal view; (7) lower mouth parts, ventral view; (8) pronotum, dorsal view; (9) left hind leg, dorsal view. Scale lines—1.0 mm (fig. 1); 0.5 mm (figs. 3,7,8); 0.1 mm (figs. 2, 4, 5, 6, 9).

with 2 pairs of setae, postmentum with 3 pairs of setae and 1 sensillum.

Thorax. Pronotum blackish brown, strongly sclerotized, with 21 pairs of setae; mesothoracic spiracles annuliform, situated on epipleural anterior part; epipleuron with 3 setae; peritreme strongly sclerotized; legs rather long and stout; tibia with 7 setae; tarsungulus falciform, strongly curved at anteriorly, enlarged base with 1 seta; pulvillus whitish, bladder-like, somewhat longer than tarsungulus.

Abdomen. Typical abdominal segments with three folds; abdomen with 8 pairs of spiracles and with 3 short setae laterally, the peritremes circular; pygopod absent.

Body length: 12.0 mm (n=5). Head width: 2.0 mm (n=5).

Materials examined. Vietnam, Boun-Coi, 30 VI-1981, larvae collected and determined by L. N. Medvedev.

Podontia dalmani Baly

(Fig. 2)

Mature larva. Body brown, slightly convexed;

head, mandibles, legs and spiracles blackish brown, pronotum and spots pale brown.

Head. Hypognathous, rounded, strongly sclerotized; frontal suture broadly divergent and somewhat sinuate; frons with 2 pairs of frontal setae and 1 pair frontal sensillum; epistomal suture and endocarina feebly developed; stemmata 1 in number on each side; antenna rather long, 1-segmented, segment with a large conical sensory papilla, 8 setae; clypeus with 3 pairs of clypeal setae and 1 pair of clypeal sensilla; labrum somewhat incised in the middle of anterior, W-shaped, with 4 pairs of labral setae and 1 pair of labral sensilla; epipharynx with 5 pair of epipharyngeal setae; mandible rather rectangular, strongly sclerotized, upper side reddish brown, with 6 distal teeth and 2 mandibular setae; maxillary palp 3-segmented, segment 1 without seta, segment 2 with 1 seta, segment 3 without seta; palpifer with 3 setae; stipes with 4 setae; cardo with 1 seta; galea with 8 setae; lacinia with tightly bunched group of 8 setae located behind galea; labial palp 2-segmented; prementum and postmentum separated by narrow sclerotized

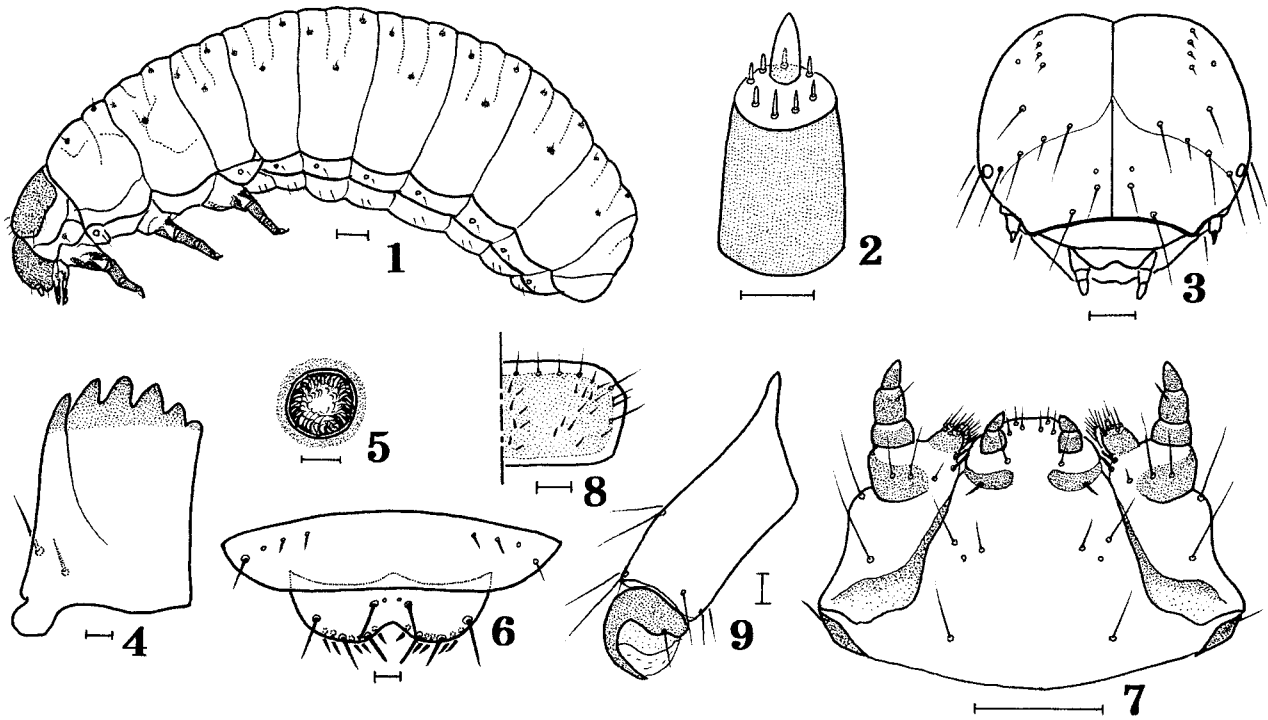


Fig. 2. *Podontia dalmani*: (1) mature larva, lateral view; (2) antenna, dorsal view; (3) head, dorsal view; (4) mandible, buccal view; (5) spiracle, dorsal view; (6) clypeus, labrum and epipharynx, dorsal view; (7) lower mouth parts, ventral view; (8) pronotum, dorsal view; (9) left hind leg, dorsal view. Scale lines—1.0 mm (fig. 1); 0.5 mm (figs. 3,7,8); 0.1 mm (figs. 2, 4, 5, 6, 9).

membrane except middle area; prementum with 4 pairs of setae, postmentum with 4 pairs of setae and 1 sensillum.

Thorax. Pronotum blackish brown, strongly sclerotized, with 29 pairs of setae; mesothoracic spiracles annuliform, situated on epipleural anterior part; epipleuron with 3 setae; peritreme strongly sclerotized; legs rather long and stout; tibia with 7 setae; tarsungulus falciform, strongly curved at anteriorly, enlarged base with 1 seta; pulvillus grayish at upperside and whitish at downside, bladder-like, as long as tarsungulus.

Abdomen. Typical abdominal segments with three folds; abdomen with 8 pairs of spiracles and with 3 short setae laterally, the peritremes circular, adjacent area sclerotized; each spots with 1 seta; pygopod absent.

Body length: 20.0 mm (n=5). Head width: 2.1 mm (n=5).

Materials examined. Vietnam, Uadlen, 22-III-1987, larvae collected and determined by L.N. Medvedev.

Podontia lutea (Oliver)

(Fig. 3)

Mature larva. Body reddish brown, strongly convexed, C-shaped; head, mandibles, legs, antennae, spots, pronotum and spiracles blackish brown.

Head. Hypognathous, rounded, strongly sclerotized; frontal suture broadly divergent and somewhat sinuate; frons with 4 pairs of frontal setae and 1 pair of frontal sensillum; epistomal suture and endocarina well developed; stemmata 1 in number on each side; antenna 1-segmented, segment with a small conical sensory papilla, 7 setae; clypeus with 4 pairs of clypeal setae; labrum strongly incised in the middle of anterior, waveshaped, with 2 pairs of labral setae and 1 pair of labral sensilla; epipharynx with 6 pair of epipharyngeal setae; mandible rather palmate, strongly sclerotized, upper side reddish brown, with 6 distal teeth and 2 mandibular setae; maxillary palp 3-segmented, segment 1 without seta, segment 2 with 2 setae, segment 3 with 1 sensillum; palpifer with 3 setae; stipes with 5 setae; cardo with 1 seta; galea with 8 setae; labial palp

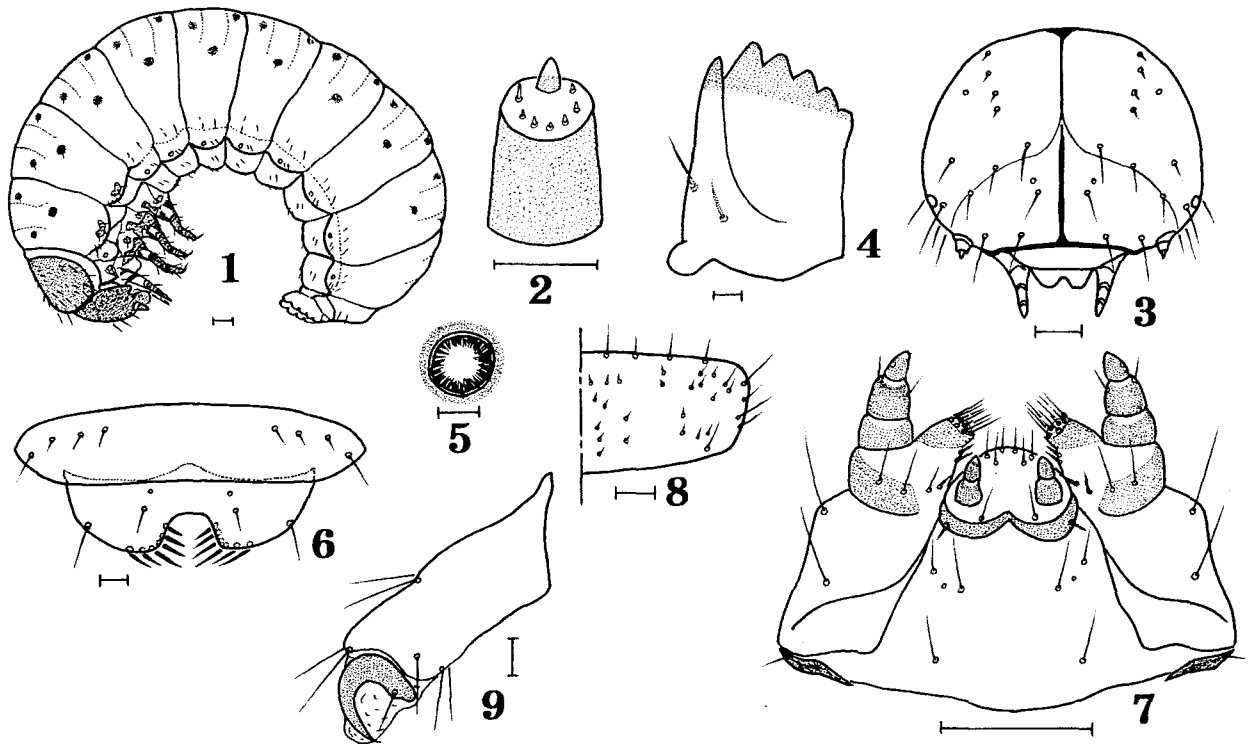


Fig. 3. *Podontia lutea*: (1) mature larva, lateral view; (2) antenna, dorsal view; (3) head, dorsal view; (4) mandible, buccal view; (5) spiracle, dorsal view; (6) clypeus, labrum and epipharynx, dorsal view; (7) lower mouth parts, ventral view; (8) pronotum, dorsal view; (9) left hind leg, dorsal view. Scale lines—1.0 mm (fig. 1); 0.5 mm (figs. 3, 7, 8); 0.1 mm (figs. 2, 4, 5, 6, 9).

2-segmented; prementum and postmentum separated by narrow sclerotized membrane; prementum with 4 pairs of setae, postmentum with 4 pairs of setae and 1 sensillum.

Thorax. Pronotum blackish brown, strongly sclerotized, with 21 pairs of setae; mesothoracic spiracles annuliform, situated on epipleural anterior part; epipleuron with 3 setae; peritreme strongly sclerotized; legs rather long and stout; tibia with 7 setae; tarsungulus falciform, strongly curved at anteriorly, enlarged base with 1 seta; pulvillus grayish, bladder-like, slightly longer than tarsungulus.

Abdomen. Typical abdominal segments with three folds; abdomen with 8 pairs of spiracles and with 3 short setae laterally, the peritremes circular; adjacent area broadly sclerotized; each spots with 1 seta; pygopod well development.

Body length: 18.0 mm (n=5). Head width: 2.7 mm (n=5).

Materials examined. Vietnam, Tam-dao, 3-V-1985, larvae collected and determined by L.N. Medvedev.

Taxonomic remarks. The larvae of genus *Podontia* are characterized by following characters: mandible with 2 mandibular setae, dorsal tergum with spots, tarsungulus large and stout, and have rectangular shaped mandible. The larvae of genus *Podontia* are similar to some of galerucine larvae in apparently, for example, antenna 1-segmented, 1 stemmata on each side of head and general shapes and setae of maxillary palp, stipites, palpifer, cardo, galea, lacinia, mentum and labial palp, but its different by body with short and scarce setae, postmentum with 3 pairs of setae and 1 pair of sensilla.

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베트남산 *Podontia*속 (딱정벌레목: 잎벌레과: 벼룩잎벌레아과)
유충의 분류학적 연구

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적 요 - 베트남산 *Podontia affinis*, *P. dalmani*, *P. lutea*의 3종 유충에 대한 상세한 기재를 하였으며, *P. dalmani*를 제외한 *Podontia affinis* 및 *P. lutea*는 최초로 기재된다. 또한 이 종들의 분류학적 특징에 대해서도 언급한다.