Review of species of the genus *Adelurola* Strand, 1928, with a key to species (Hymenoptera, Braconidae, Alysiinae)

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Abstract

The alysiine genus *Adelurola* Strand, 1928 (Hymenoptera, Braconidae) is revised. Illustrated re-descriptions and a key to all known species of this genus are given. The following new combination is proposed: *Dapsilarthra eurys* (Chen & Wu, 1994), **comb. n.** *Adelurola amplidens* (Fischer, 1966) and *A. asiatica* Telenga, 1935 are recorded for the first time from Iran and Kyrgyzstan, respectively.

Keywords

Hymenoptera, Alysiinae, *Adelurola*, fly endoparasitoid, new record, new combination, redescription, Iran
Introduction

Adelurola Strand, 1928 is a small Palaearctic genus of the braconid subfamily Alysiinae that currently contains five recognised species (Yu et al. 2012). Traditionally, most species of Adelurola were included within Dapsilarthra (e.g. Wharton 1980). Van Achterberg (1983) clarified the status of both genera and found valuable differences between them, including the presence of a ventral lamelliform lobe on the mandible (Fig. 1), the second flagellar segment usually subequal or slightly longer than the first segment, and the precoxal sulcus more or less sculptured.

Our current taxonomic research on the braconid wasps of the subfamily Alysiinae in Iran resulted in the first record of a species of Adelurola in this country. The difficulty for the identification of species of Adelurola has led to a major revision of this genus. In this work, all the currently recognised species Adelurola are re-described and an identification key is provided.

Material and methods

Sampling in Iran was carried out by sweeping with a standard net in Kermanshah province (western part of Iran) in 2013. Specimens were subsequently prepared using the AXA method (van Achterberg 2009). For terminology of the morphological features and sculpture, measurements and wing venation nomenclature see van Achterberg (1993). Photographs were taken with a Digital Microscope VHX-2000 and with a Nikon® D700 mounted on a Leica® S8APO microscope, with images combined using Helicon Focus® and edited using Adobe Photoshop® imaging system.

Specimens examined are deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia (ZISP), and in the collection of Naturalis Biodiversity Center, Leiden, the Netherlands (RMNH). Type specimen of Alysia florimela Haliday was studied by the third author in the Haliday Collection (Dublin, Ireland) (van Achterberg 1993); the type material of Neocarpa amplidens Fischer is missing in the Zoologische Sammlung (Munich, Germany) and its current location is unclear.

Results

Genus Adelurola Strand, 1928

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Type species. *Alysia florimela* Haliday, 1838.


**Remarks.** This genus is similar to *Dapsilarthra* but differs from it in having the wide ventral lamelliform lobe on the mandible (Fig. 1) (absent in *Dapsilarthra*), the first flagellar segment not shorter than second segment (shorter in *Dapsilarthra*), precoxal suture sculptured (usually smooth in *Dapsilarthra*), and radial vein (r) arising submedially from pterostigma (usually before pterostigma in *Dapsilarthra*).

The observation of these characters in studied images of the holotype of *Adelurola eurys* Chen & Wu, 1994 showed that this species is better placed under genus *Dapsilarthra* Foerster, 1863 (comb. n.).

**Hosts.** Cyclorrhaphous Diptera (Tephritidae and Anthomyiidae).

*Adelurola amplidens* (Fischer, 1966)

Fig. 2

*Neocarpa amplidens* Fischer 1966: 85.

**Material examined.** Iran: 2 females, Kermanshah Province, Kermanshah, 16.iv.2013, swept on *Medicago sativa* L. (Z. Sharifi coll.) (ZISP, RMNH); 1 male, Iran, Hormozgan.
Figure 2. *Adeluola amplidens* (Fischer) (female). A Habitus, lateral view B Head (lateral view) and mandible C Face, front view D Mesosoma, lateral view E Hind femur, metasoma and ovipositor, lateral view F First metasomal tergite G Fore and hind wings.

**Description.** Female.

Head entirely smooth; in dorsal view twice as wide as median length, 1.5 times as wide as mesoscutum, with rounded temples behind eye. Eye in lateral view 1.5 times as high as wide and 0.8 times as wide as temple medially. POL 1.5 times OD; OOL 3.5 times OD. Face slightly punctate, with scattered short setae, without middle vertical protuberance in upper half, 1.9 times as wide as high; inner margins of eyes subparallel. Clypeus slightly curved ventrally, 1.9 times as wide as high. Mandible widened towards apex, 1.3 times as long as its maximum width. Upper tooth of mandible broadened towards subapex, longer than lower tooth; middle tooth wide basally and narrowed towards apex, rounded apically; lower tooth rounded apically. Antenna thick, 37-segmented. Scape 1.5 times as long as pedicel. First flagellar segment 3.0 times as long as its apical width; second segment 4.4 times as long as its maximum width, about as long as first segment. Third flagellar segment 4.0 times as long as its maximum width. Penultimate segment 2.0 times and apical segment 4.0 times as long as their maximum widths, respectively.

Mesosoma 1.5 times as long as high (lateral view). Mesoscutum smooth, punctate in antero-dorsal area, with numerous scattered setae, about as long as maximum width. Notauli present, punctate, reaching half part of mesoscutum, not reaching with mesocutal pit. Mesocutal pit present, elongate. Scutellar sulcus rugose-striate; with median and lateral carinae. Sides of pronotum sculptured. Precoxal suture present, widely rugose-crenulate, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow crenulated. Propodeum completely rugose-reticulate, with numerous scattered setae. Propodeal spiracle relatively small.

Wings. Length of fore wing 2.3 times its maximum width. Pterostigma cuneate. Marginal cell ending before apex of wing, 2.5 times as long as its maximum width. Vein 3-SR 2.0 times as long as vein 2-SR. Vein SR1 1.8 times as long as vein 3-SR. Second submarginal cell 3.3 times as long as its maximum width. Vein cu-a postfurcal. Subdiscal cell closed, 3.8 times as long as its maximum width. Hind wing 4.6 times as long as its maximum width.

Legs. Hind femur 5.2 times as long as its maximum width. Hind tibia slightly widened towards apex, about 9.7 times as long as its maximum subapical width, 1.1 times as long as hind tarsus. First segment of hind tarsus 1.8 times as long as second segment.

Metasoma slightly compressed laterally. First tergite rugose-recticulate in apical half, without median carinae, slightly widened towards apex, 1.3 times as long as its apical width. Second metasomal tergite smooth. Ovipositor sheath 0.6 times as long as first tergite, 0.4 times as long as hind femur.


Body length 3.9 mm; fore wing length 4.3 mm.
Male. Body length 3.5 mm; fore wing length 4.0 mm. Eye in lateral view 1.3 times as high as wide. Mandible 1.1 times as long as its maximum width. First flagellar segment 3.2 times as long as its apical width. Hind femur 4.8 times as long as its maximum width. Otherwise differs from female.

Differences of male types (according to original description: Fischer 1966). Fore wing length 4.4 mm. Mandible 1.3 times as long as its maximum width. Antenna 38–39-segmented. First flagellar segment 3.0 times as long as its apical width. Mesoscutum about as long as its maximum width. Hind femur 4.5 times as long as its maximum width.

**Comparative diagnosis.** This species is similar to *A. asiatica* Telenga, 1935 and *A. florimela* (Haliday, 1838). *Adelurola amplidens* differs from *A. asiatica* in having the eye in lateral view 0.8 times as wide as temple medially (1.2 times in *A. asiatica*), marginal cell 2.5 times as long as its maximum width (3.8 times in *A. asiatica*), and precoxal suture not reaching anterior and posterior margins of mesopleuron (reaching anterior and posterior margins in *A. asiatica*). *A. amplidens* differs from *A. florimela* in having the eye in lateral view 0.85 times as wide as temple medially (about 1.2 times in *A. florimela*), first metasomal tergite without median carinae (with median carinae in *A. florimela*), vein 3-SR 2.0 times as long as vein 2-SR (1.1–1.3 times in *A. florimela*), vein SR1 1.8 times as long as veins 3-SR (2.2–2.6 times in *A. florimela*), and marginal cell 2.5 times as long as its maximum width (2.8–3.2 times in *A. florimela*).

**Distribution.** Iraq, Iran (new record).

*Adelurola asiatica* Telenga, 1935

Fig. 3


**Type material.** Holotype: female (nearly entirely destroyed; head, antennae, all wings, metasoma, right fore and hind legs missing), Uzbekistan, silver circle, “Yargak (Jargak), Khatvirg. r. (?), 24.iv.[19]28, L. Zimin” (ZISP).


**Description.** Female.

Head entirely smooth; in dorsal view 1.8 times as wide as median length, 1.45 times as wide as mesoscutum, with convex rounded temples behind eye. Eye in lateral view 1.35 times as high as wide and 0.9 times as wide as temple medially. POL 0.8 times OD; OOL 2.8 times OD. Face smooth, with very fine reticulation, with sca-
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Figure 3. *Adelurola asiatica* Telenga (female). A Habitus, lateral view B Face, front view C Mandible D Mesosoma, lateral view E Metasoma and ovipositor, lateral view F First metasomal tergite G Fore and hind wings.
tered short setae in lateral areas, with low middle vertical protuberance, 2.1 times as wide as high; inner margins of eyes subparallel. Clypeus slightly convex ventrally, about twice as wide as high. Mandible broadened towards subapex, 0.9 times as long as its maximum width. Upper tooth of mandible broadened sideward, much longer than lower tooth; middle tooth wide basally and narrowed towards apex, rounded apically; lower tooth short, rounded apically. Antenna rather slender, 37-segmented. Scape 1.15 times as long as pedicel. First flagellar segment 3.1 times as long as its apical width; second segment 3.7 times as long as its maximum width, 1.2 times as long as first segment. Third flagellar segment about 3.0 times as long as its maximum width. Penultimate segment 2.2 times and apical segment 4.2 times as long as their maximum widths, respectively.

Mesosoma 1.5 times as long as high (lateral view). Mesoscutum smooth, punctate and densely setose in anterior part, 0.9 times as long as maximum width. Notauli coarsely crenulate, present in anterior half of mesoscutum, not reaching with mesoscutal pit. Mesoscutal pit present, very long, sparsely crenulate. Scutellar sulcus distinctly crenulate, with median carina but without lateral carinae. Sides of pronotum smooth in anterodorsal area, mainly rugose-reticulate. Precoxal suture present, wide, reaching anterior margin of mesopleuron but absent posteriorly. Posterior mesopleural furrow sparsely and widely crenulate below and shortly and densely crenulate in upper half. Propodeum completely rugose-reticulate, with numerous scattered setae. Propodeal spiracle relatively small.

Wings. Length of fore wing 2.3 times its maximum width. Pterostigma cuneate. Marginal cell distinctly shortened, reaching distinctly before apex of wing, 2.8 times as long as its maximum width. Vein 3-SR 1.7 times as long as vein 2-SR. Vein SR1 1.9 times as long as vein 3-SR. Second submarginal cell 3.3 times as long as maximum width. Vein cu-a distinctly postfurcal. Subdiscal cell closed, 2.3 times as long as its maximum width. Hind wing 4.0 times as long as its maximum width.

Legs. Hind femur 4.7 times as long as its maximum width. Hind tibia slightly widened towards apex, about 10.0 times as long as its maximum subapical width, as long as hind tarsus. First segment of hind tarsus 1.9 times as long as second segment.

Metasoma compressed laterally. First tergite completely and densely rugose-reticulate, without median carinae, slightly widened towards apex, 1.4 times as long as its apical width. Second metasomal tergite smooth. Ovipositor sheath 0.6 times as long as first tergite, 0.3 times as long as hind femur.


Body length 3.2 mm; fore wing length 3.0 mm.

Variation. Body length 3.4 mm; fore wing length 3.3 mm. Mandible 0.8 times as long as its maximum width; middle teeth distinctly reduced. Antenna 39-segmented. First flagellar segment 3.3 times as long as its apical width; second segment 3.4 times as long as its maximum width, 1.1 times as long as first segment. Mesoscutum about as long as its maximum width. Length of fore wing 2.3 times its maximum width.
cell 3.0 times as long as its maximum width. Vein 3-SR 1.55 times as long as vein 2-SR. Vein SR1 2.0 times as long as veins 3-SR. Second submarginal cell 3.4 times as long as its maximum width. Hind wing 4.3 times as long as its maximum width. Hind femur 5.3 times as long as its maximum width. First metasomal tergite 1.5 times as long as its apical width.

Male. Unknown.

**Diagnosis.** This species is similar to *A. amplidens* (Fischer, 1966) and *A. florimela* (Haliday, 1838). *Adelurola asiatica* differs from *A. florimela* by having the mandible 1.25 times as long as its maximum width (1.0 times in *A. florimela*), first metasomal tergite without median carinae (with median carinae in *A. florimela*), vein 3-SR 1.9 times as long as vein 2-SR (1.2 times in *A. florimela*), vein SR1 1.8 times as long as vein 3-SR (2.4 times in *A. florimela*), and precoxal suture reaching anterior and posterior margins of mesopleuron (not reaching anterior and posterior margins in *A. florimela*). Differences between *A. asiatica* and *A. amplidens* are in the re-description of the latter species.

**Distribution.** Uzbekistan, Turkmenistan, Kyrgyzstan (new record).

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*Adelurola florimela* (Haliday, 1838)

Fig. 4

*Alysia florimela* Haliday 1838: 239; 1839: 25.

*Adelura florimela*: Foerster 1863: 267; Marshall 1894: 420; Dalla Torre 1901: 38; Lyle 1933: 74; Morley 1933: 183; Stelfox 1941: 2.

*Alysia (Adelura) florimela*: Thomson 1895: 2287.


*Phaenocarpa multiarticulata* Marshall 1898: 245.


*Dapsilarthra pentapleuroides* Fischer 1971: 85 (as synonym of *A. multiarticulata*).

**Material examined. Germany:** 1 female, “*Adelura florimela* Hal. ♀”, “Schmiedeknecht dt.”; 2 males, without geographical labels, from Schmiedeknecht Collection. **Latvia:** 1 female, Valmier Region, Draudziba, ex larva of *Pegomyia hyoscyami* (Panzer) on beet, 6.vii.1962, V. Ozolinsh coll. (ZISP); 1 female, same label, but 14.07.1962 (ZISP); 1 female, same label, but 21.viii.1962 (ZISP). **Russia:** 1 female, 2 males, Leningrad Province, Kingisepp, 20 and 22.v.1904, Vinogradov-Nikitin coll. (ZISP); 1 female, Yaroslavl’ Province, Bykovo, 25.v.1891, N. Kokuev coll. (ZISP); 1 female, Yamalo-Nenets Autonomous Region, Krasnosel’kup, Taz River, terrace, 15–17.viii.1992, D. Kasparyan coll. (ZISP); 1 male, PrimorskiyTerritory, 12 km S Khorol’, forest, 4.vi.1979, S. Belokobyolskij coll. (ZISP); 1 male, Primorskiy Territory, 8 km from Brovnichi, Ser-
Figure 4. *Adelurola florimela* (Haliday) (female). **A** Habitus, lateral view **B** Head (lateral view) and mandible **C** Face, front view **D** Mesosoma, lateral view **E** Metasoma and ovipositor, lateral view **F** First metasomal tergite **G** Fore and hind wings.

**Description.** Female.

Head entirely smooth; in dorsal view 2.0 times as wide as median length, 1.5 times as wide as mesoscutum, with not convex rounded temples behind eye. Eye in lateral view 1.3 times as high as wide and 1.15 times as wide as temple medially. POL about as long as OD; OOL 3.0 times OD. Face rugulose medially, with scattered setae, with distinct and complete middle prominence, 2.0 times as wide as high; inner margins of eyes subparallel. Clypeus slightly curved ventrally, 3.0 times as wide as high. Mandible broadened towards subapex, 1.2 times as long as its maximum width, rugose. Upper tooth of mandible broadened sideward, distinctly longer than lower tooth; middle tooth wide basally and narrowed towards apex, pointed apically; lower tooth rounded apically. Antenna rather slender, 45-segmented. Scape 1.25 times as long as pedicel. First flagellar segment 3.3 times as long as its apical width; second segment 3.8 times as long as its maximum width, 1.1 times as long as first segment. Third flagellar segment 3.5 times as long as its maximum width. Penultimate segment about 2.0 times and apical segment 3.3 times as long as their maximum widths, respectively.

Mesosoma 1.4 times as long as high (lateral view). Mesoscutum entirely smooth, with dense setae along notauli and scattered setae laterally, as long as its maximum width. Notauli present in anterior half and absent in posterior half, crenulate. Mesoscutal pit present, short, elongate. Scutellar sulcus finely and sparsely rugulose, with distinct median carina but without lateral carinae. Sides of pronotum mainly smooth. Precoxal suture rather wide and rugulose, reaching anterior margin of mesopleuron, but absent posteriorly. Posterior mesopleural furrow completely crenulate. Propodeum completely rugose-reticulate. Propodeal spiracle small.

Wings. Length of fore wing 2.6 times its maximum width. Pterostigma cuneate. Marginal cell just not reaching apex of wing, 3.2 times as long as its maximum width. Vein 3-SR 1.3 times as long as vein 2-SR. Vein SR1 2.2 times as long as veins 3-SR. Second submarginal cell 3.6 times as long as its maximum width. Vein cu-a distinctly postfurcal. Subdiscal cell closed, 2.5 times as long as its maximum width. Hind wing 4.3 times as long as its maximum width.

Legs. Hind femur about 5.0 times as long as its maximum width. Hind tibia slightly widened towards apex, about 10.0 times as long as its maximum subapical width, 0.9 times as long as hind tarsus. First segment of hind tarsus 2.0 times as long as second segment.

Metasoma depressed dorso-ventrally. First tergite completely rugose-reticulate with median carina, hardly widened towards apex (subparallel), 1.6 times as long as its
apical width. Second metasomal tergite smooth. Ovipositor sheath 0.3 times as long as first tergite, 0.2 times as long as hind femur.


Body length 3.4 mm; fore wing length 3.9 mm.

Variation. Body length 3.1–4.2 mm; fore wing length 3.5–4.3 mm. Antenna 43–49-segmented. First flagellar segment 3.0–3.4 times as long as its apical width; second segment 3.7–4.2 times as long as its maximum width, 1.10–1.15 times as long as first segment. Third flagellar segment 3.5–4.0 times as long as its maximum width. Marginal cell of fore wing 2.8–3.1 times as long as its maximum width. Vein 3-SR 1.1–1.3 times as long as vein 2-SR. Vein SR1 2.2–2.6 times as long as vein 3-SR. Second submarginal cell 3.0–3.5 times as long as its maximum width. Subdiscal cell 2.1–3.0 times as long as its maximum width. Hind femur 4.7–5.0 times as long as its maximum width. First tergite 1.3–1.6 times as long as its apical width. Ovipositor sheath 0.3–0.6 times as long as first tergite, 0.2–0.4 times as long as hind femur.

Male. Body length 3.2–4.0 mm; fore wing length 3.6–4.6 mm. Mandible often brown to dark brown. Veins of fore wing more or less widened; pterostigma distinctly thickened and completely black or dark brown. Hind femur 5.0 times as long as its maximum width. First metasomal tergite narrow, 1.6–1.9 times as long as its apical width.

**Diagnosis.** *Adelurola florimela* (Haliday, 1838) differs from *A. amplidens* (Fischer, 1966), *A. asiatica* Telenga, 1935 and *A. kamtschatica* Belokobylskij, 1998 by the features listed in the diagnoses of each of these species, as listed above.

**Hosts.** *Acidia cognata* (Wiedemann, 1817) (Tephritidae), *Pegomya hyoscyami* (Panzer, 1809), *P. nigrirasis* (Zetterstedt, 1838) and *P. solennis* (Meigen, 1826) (Anthomyiidae) (van Achterberg 1983; Belokobylskij 1998; Yu et al. 2012).

**Distribution.** Austria, former Czechoslovakia, Finland, Georgia, Germany, Hungary, Ireland, Italy, Japan, Latvia, Lithuania, Netherlands, Poland, Russia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, former Yugoslavia.

*Adelurola kamtschatica* Belokobylskij, 1998

**Fig. 5**


**Type material.** Holotype: female, Kamchatka, saddle of Avacha and Koryaka Volcanoes, 1000 m, mountain tundra, 27.vii.1985, S. Belokobylskij coll. (ZISP); 1 female (paratype), same label, but 26.vii.1985 (ZISP).

**Description.** Female.

Head entirely smooth; in dorsal view 2.0 times as wide as median length, 1.5 times as wide as mesoscutum, with rounded temples behind eye. Eye in lateral view 1.2 times as high as wide and 0.9 times as wide as temple medially. POL as long
Figure 5. *Adelurola kamtschatcica* Belokobylskij (female, paratype). A Habitus, lateral view B Head (lateral view) and mandible C Face in front view D Mesosoma, lateral view E Metasoma and ovipositor, lateral view F First metasomal tergite G Fore and hind wings.
as OD; OOL 4.3 times OD. Face faintly rugulose-striate, with rather dense setae, with complete middle prominence, 2.4 times as wide as high; inner margins of eyes subparallel. Clypeus distinctly curved ventrally, 2.0 times as wide as high. Mandible not strongly broadened towards subapex, 1.3 times as long as its maximum width, rugose. Upper tooth of mandible broadened sideward, distinctly longer than lower tooth; middle tooth wide basally and strongly narrowed towards apex, pointed apically; lower tooth rounded apically. Antenna slender, 45-segmented. Scape 1.9 times as long as pedicel. First flagellar segment 2.8 times as long as its apical width; second segment 3.6 times as long as its maximum width, 1.25 times as long as first segment. Third flagellar segment 3.1 times as long as its maximum width. Penultimate segment 2.4 times and apical segment 3.0 times as long as their maximum widths, respectively.

Mesosoma 1.4 times as long as high (lateral view). Mesoscutum smooth, its upper part with dense setae latero-anteriorly, 1.1 times as long as maximum width. Notauli absent in posterior half. Mesoscutal pit present, elongate. Scutellar sulcus smooth, without median and lateral carinae. Sides of pronotum mainly smooth. Precoxal suture present, not reaching anterior and posterior margins of mesopleuron, slightly crenulate. Posterior mesopleural furrow completely and shortly crenulate. Propodeum completely rugose-reticulate, with numerous scattered setae. Propodeal spiracle small.

Wings. Length of fore wing 2.2 times its maximum width. Pterostigma cuneate. Marginal cell reaching just before apex of wing, 3.5 times as long as its maximum width. Vein 3-SR 1.3 times as long as vein 2-SR. Vein SR1 2.6 times as long as vein 3-SR. Second submarginal cell 3.1 times as long as its maximum width. Vein cu-a postfurcal. Subdiscal cell closed, 2.6 times as long as its maximum width. Hind wing 4.3 times as long as its maximum width.

Legs. Hind femur 4.7 times as long as its maximum width. Hind tibia slightly widened towards apex, about 10.0 times as long as its maximum subapical width, as long as hind tarsus. First segment of hind tarsus 1.9 times as long as second segment.

Metasoma compressed laterally. First tergite slightly rugose-reticulate in apical half, with several striae, with median carinae, not widened towards apex (parallel subparallel), 1.6 times as long as its apical width. Second metasomal tergite smooth. Ovipositor sheath 0.7 times as long as first tergite, 0.4 times as long as hind femur.


Body length 2.9 mm; fore wing length 3.5 mm.

Variation. Fore wing length 3.4 mm. Head in dorsal view 1.9 times as wide as median length POL 0.8 times as long as OD. Face about twice as wide as high. Clypeus 2.5 times as wide as high. Mesosoma 1.5 times as long as high (lateral view). Length of fore wing 2.4 times its maximum width. Vein 3-SR 1.4 times as long as vein 2-SR. Vein SR1 twice as long as veins 3-SR. Second submarginal cell 3.4 times as long as
maximum width. Subdiscal cell 2.3 times as long as its maximum width. Hind femur
4.6 times as long as its maximum width. First tergite 1.5 times as long as its apical
width. Ovipositor sheath 0.8 times as long as first tergite.

Male. Unknown.

**Diagnosis.** This species is similar to *A. florimela* (Haliday, 1838), but differs from
it in having the scutellar sulcus smooth and without complete median carina (sculptu-
tured and with complete median carina in *A. florimela*), first flagellar segment shorter
(longer in *A. florimela*), mandible slightly widened towards apex and its upper tooth
smaller and less protruding upwards (distinctly widened and with large upper tooth in
*A. florimela*), precoxal suture finely and narrow rugulose (distinctly and widely rugose
in *A. florimela*), pterostigma paler, pale brown (darker, brown in *A. florimela*).

**Distribution.** Russia (Far East).

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**Key to the world species of Adelurola**

1. Mandible slightly widened towards apex (Fig. 5B), upper tooth smaller and
less distant up (Fig. 5B). Prescutellar sulcus without median carina and al-
most smooth. Precoxal suture finely and narrowly rugulose (Fig. 5D). Body
length 2.8–2.9 mm. 

- **A. kamtsatica** Belokobylskij

2(1) First flagellar segment 0.8 times as long as second segment. Precoxal suture
reaching anterior and usually posterior margins of mesopleuron (Fig. 3D).
Third mandibular tooth small or very small (Fig. 3C). Body length 3.2–3.4
mm.

- **A. asiatica** Telenga

3(2) Eye in lateral view 1.2 times as wide as temple medially (Fig. 4B). Metasoma
mainly depressed dorso-ventrally (Fig. 4E). Marginal cell almost reaching apex
of wing, 2.8–3.2 times as long as its maximum width (Fig. 4F). Vein 3-SR
1.1–1.3 times as long as vein 2-SR (Fig. 4F). Vein SR1 2.2–2.6 times as long
as vein 3-SR (Fig. 4F). Body length 3.1–4.2 mm.

- **A. florimela** (Haliday)

3(2) Eye in lateral view 0.8 times as wide as temple medially (Fig. 2B). Metasoma
more or less compressed laterally (Fig. 2E). Marginal cell remaining far from
apex of wing, 2.5 times as long as its maximum width (Fig. 2F). Vein 3-SR
2.0 times as long as vein 2-SR (Fig. 2F). Vein SR1 1.8 times as long as vein
3-SR (Fig. 2F). Body length 3.5–3.9 mm.

- **A. amplidens** (Fischer)
Excluded species

*Dapsilarthra eurys* (Chen & Wu, 1994), comb. n.

*Adelurola eurys* Chen and Wu 1994: 19, 154; Yu et al. 2012.

**Type material.** Holotype: female (studied the images), China, “Xianfengling, Mt. Wuyi, Fujian, 2.viii.1986, Liu Minghui” (Beneficial Insects Institute, Fujian Agricultural University, Fuzhou, China).

**Remarks.** After examining of the holotype images of *A. eurys* we surely considered that this species actually belongs to the genus *Dapsilarthra* by the absence of a ventral lamelliform lobe on mandible and elongated the first flagellar segment of antenna.

**Discussion**

*Adelurola* is exclusively Palaearctic small genus of parasitoid wasps of subfamily Alysiinae closely related to *Dapsilarthra*. If *A. florimela* (Haliday) is very widely distributed in the Palaearctic Region (from U.K. till Russian Far East), then other three species have local Asian distribution on the territories of Middle East (*A. amplidens* (Fischer)), Central Asia (*A. asiatica* Telenga) and Kamchatka Peninsula (*A. kamtschatica* Belokobylskij). Additionally this paper includes the first records of *Adelurola* species, *A. amplidens* and *A. asiatica* Telenga, from Iran and Kyrgyzstan.

Unfortunately, the hosts of *Adelurola* taxa are unknown yet. However published in this paper information is valuable one owing to significant role of many Alysiinae taxa in the regulation of the natural dipterans populations mainly from families Anthomyiidae and Tephritidae.

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