Redescription of *Longitarsus ferruginipennis* Fuente 1910 and resurrection of *L. seticollis* Mohr 1962 (Chrysomelidae: Galerucinae: Alticini)

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Abstract - *Longitarsus ferruginipennis* Fuente 1910 was described from Ciudad Real, Spain. Later, it was regarded a senior synonym of *L. seticollis* Mohr 1962. No other information about this species is available. In the current study, we compare the two species, concluding that they are different. A redescription of *L. ferruginipennis* and a new distributional record are given, as well as host plant and habitat data. Photographic images of the habitus and genitalia of the two species are shown.

Key words: chrysomelid, flea beetle, Iberian Peninsula, new record, Portugal, Spain.

Riassunto - Ridescrizione di *Longitarsus ferruginipennis* Fuente 1910 e riesumazione di *L. seticollis* Mohr 1962 (Chrysomelidae: Galerucinae: Alticini).

Longitarsus ferruginipennis Fuente 1910 è stato descritto da Ciudad Real, Spagna. Successivamente, il taxon è stato considerato sinonimo senior di *L. seticollis* Mohr 1962, ma non sono disponibili altre informazioni su questa specie. Nel presente studio confrontiamo le due specie, concludendo che sono differenti. Vengono forniti una nuova descrizione di *L. ferruginipennis* e una nuova distribuzione, oltre a dati sulla pianta ospite e sull'habitat. L'habitus e i genitali delle due specie sono rappresentati con immagini fotografiche.

Parole chiave: crisomelidi, nuova segnalazione, Penisola Iberica, Portogallo, Spagna.

INTRODUCTION

During his lifetime, the priest José María de la Fuente (1855-1932) described numerous species of insects in 59 scientific papers (see Martin Albadalejo, 1994), mainly Coleoptera from his native village, Pozuelo de Calatrava in Ciudad Real (Spain). Among his discoveries are 22 specific or infraspecific taxa of Chrysomelidae. Originally, he gave rank of species to seven taxa, two of them currently valid, *Longitarsus ferruginipennis* Fuente, 1910, and *Cryptocephalus* (*Burlinius*) *majoricensis* Fuente 1918 (Warchałowski, 1999; Lopatin *et al*., 2010), the other specific or subspecific names were regarded synonyms of senior names.

Longitarsus seticollis Mohr 1962 as well as *L. caroli* Bastazo et García-Raso 1985 were thought to be synonyms to *L. ferruginipennis* Fuente 1910 (Warchałowski, 1996; Gruev & Döberl, 1997; Döberl, 2010). One of us (GB) visited in 1996 the collection of Fuente in Ciudad Real and had the opportunity of studying the syntypes of *L. ferruginipennis* (see Fernández-Carrillo & Fernández-Carrillo, 2005). The other author (FF) collected several specimens of this species in South Portugal in 2004 and 2010. As the result of these data we now can confirm that *L. ferruginipennis* and *L. seticollis* are valid species. In this paper we redescribe *L. ferruginipennis*, report new host plant data and discuss its characteristics in comparison to that of *L. seticollis*.

We affectionately dedicate this paper to Carlo Leonardi (Milano), who contributed so decisively to the study of Palaearctic Chrysomelidae and specifically to the knowledge of the Alticini. His rigorous work is a source of inspiration for generations to come. Moreover, Carlo Leonardi is a dear colleague who has always had a generous and gentle attitude towards us.

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MATERIALS AND METHODS

The habitus and head photographic images were taken using a stereo microscope Leica S9i with integrated camera. The genitalia images were made with photographic camera Nikon EOS 550D attached to the ocular of a Nikon YS2-H Alfaphot microscope. Zerene Stacker® was used for stacking the photographs.

RESULTS

Redescription of *Longitarsus ferruginipennis* Fuente 1910

Type locality - Pozuelo de Calatrava, Ciudad Real, Spain.

Type specimens examined - Three males and one female each glued to one label and on the same pin are syntypes. A handwritten label is below with the letter of Fuente: “L. ferruginipennis m.” There are no locality labels. A male and the female were dissected by GB. They are preserved in the Museo Provincial de Ciudad Real.

Length, body shape and coloration - Males, 1.80-1.95 mm; females, 2.15-2.33 mm. Elongated-oval, convex, depressed in the elytral disc. Body dorsally bicolor. Head reddish-orange with the apex of labrum and maxillary palpi brown, pronotum yellow, elytra reddish. Underside yellow-reddish. Antennae yellow, with last antennomeres darker. Legs completely yellow (Fig. 1 A-B).

Head - Vertex and frons shiny, with transverse, shallow microstriation. Ocular sulcus marked, with some evident punctures close to it. Eyes black, convex, moderately prominent. Antennal calli and antennal sulci not evident. Frontal ridge not elevated (Fig. 3). Proportions of antennomeres: 13-7-8-10-12-12-12-12-12-12-15 (males) and 14-9-9-11-11-10-11-11-11-11-15 (females).

Pronotum - Convex, subrectangular, 1.47-1.56 (males) and 1.58-1.66 (females) wider than long. Punctation dense and shallow, the distance between punctures similar or smaller to their diameter; surface moderately shiny, shagreened. Antero-lateral angles not thickened, anterior setigerous pore slightly prominent. Lateral sides curved. Anterior side not margined; posterior side weakly margined (Fig. 1 C).

Scutellum - Triangular, small, heavily shagreened, without punctures.

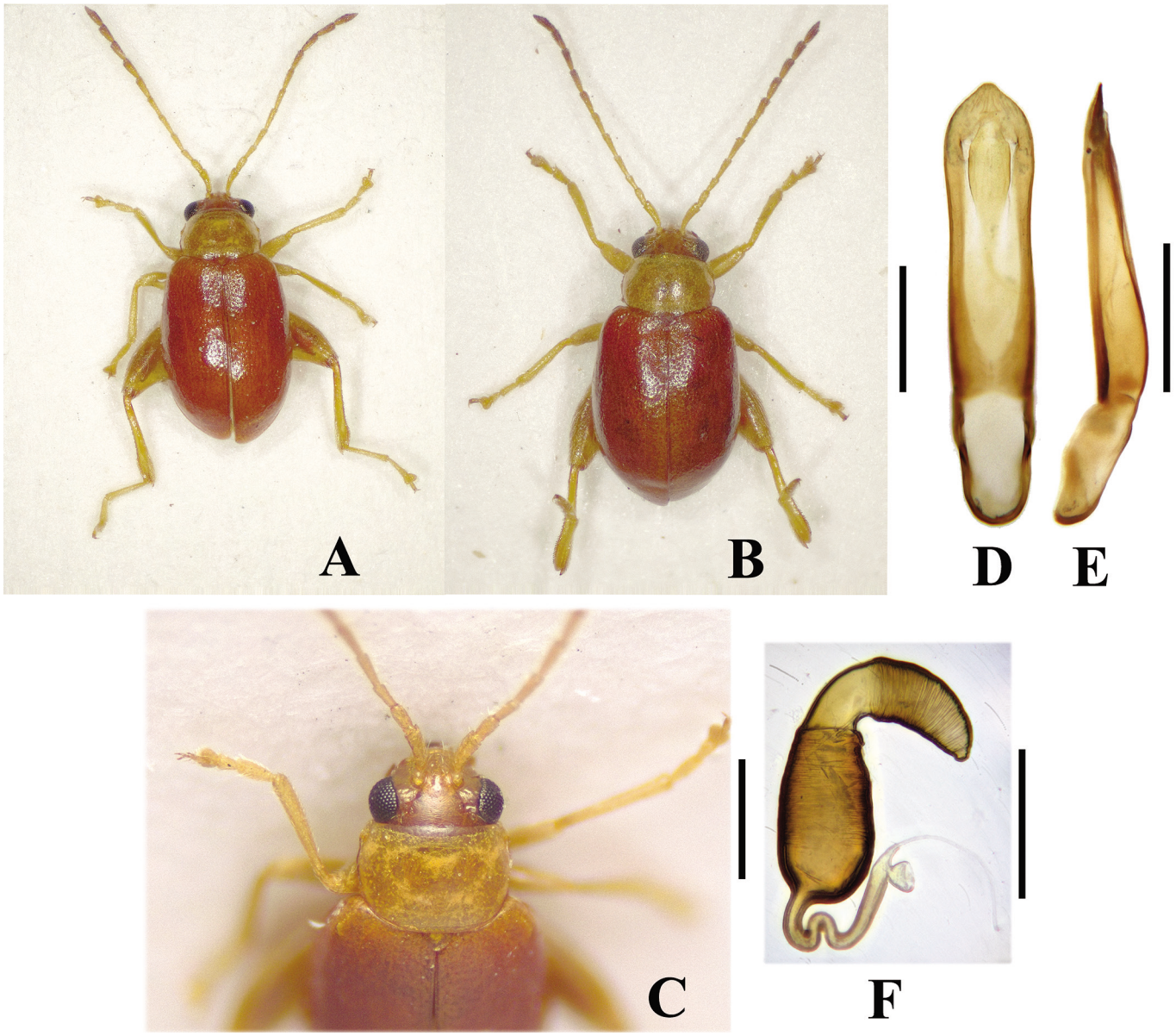

Fig. 1 - *Longitarsus ferruginipennis*. A) dorsal habitus of male; B) dorsal habitus of female; C) head and pronotum of male; D) aedeagus in ventral view; E) aedeagus in lateral view; F) spermatheca. Scale = 1 mm (A,B), 0.5 mm (C,F), 0.25 mm (D,E). / A) habitus dorsale del maschio; B) habitus dorsale della femmina; C) Capo e pronoto del maschio; D) edeago in visione ventrale; E) edeago in visione laterale; F) spermateca. Scala = 1 mm (A,B), 0,5 mm (C,F), 0,25 mm (D,E).

Elytra - Elongated, 3.68-3.75 (males), 3.63-3.66 (females) longer than pronotum, shiny, slightly depressed on the disc, covering the whole abdomen. Sutural angle obtuse. Punctures shallow, not dense, the distance between punctures similar to their diameter; surface shagreened.

Legs - Protarsomere I in males only slightly wider than in females. Metatibiae narrow, slightly curved outwards; length of the apical spur half the width of the apex of the metatibia. Metatarsomere I almost half the length of the metatibia.

Genitalia - Aedeagus in ventral view parallel-sided, weakly widened before the apex, narrowing further with obtuse point at apex. Ventral groove wide, microstriated at base, narrowing near the basal foramen (Fig. 1 D). In lateral view, the base forms a marked angle, the rest is straight, with acute point at apex (Fig. 1 E).

Spermathecal base cylindrical, widened at the basal third; apical part differentiated through a well-delimitated collum. Ductus twice curved (Fig. 1 F).

Distribution - Described from Pozuelo de Calatrava (Ciudad Real, Middle Spain) and found in Loulé municipality (Algarve, South Portugal) (present data).

Host - *Senecio jacobaea* L. (Fig. 3)

Specimens examined - Portugal, Algarve #44, Loulé, 20 km NW Alte, Gavião, Wiese, 180 m., 9.III.2010, F. Fritzlar leg., 2 males, 2 females (col. Bastazo). Idem, further 32 exx. (col. Fritzlar, col. M. Bergeal (†), col. C. Leonardi, col. E. Petitpierre, col. M. Döberl (†) in col. U. Arnold). Portugal, Algarve #21, Loulé, 25 km NW Alte N: Arneiro, 500 m NN, Fritzlar leg. 9.IV.2004, 8 exx. (col. Fritzlar).

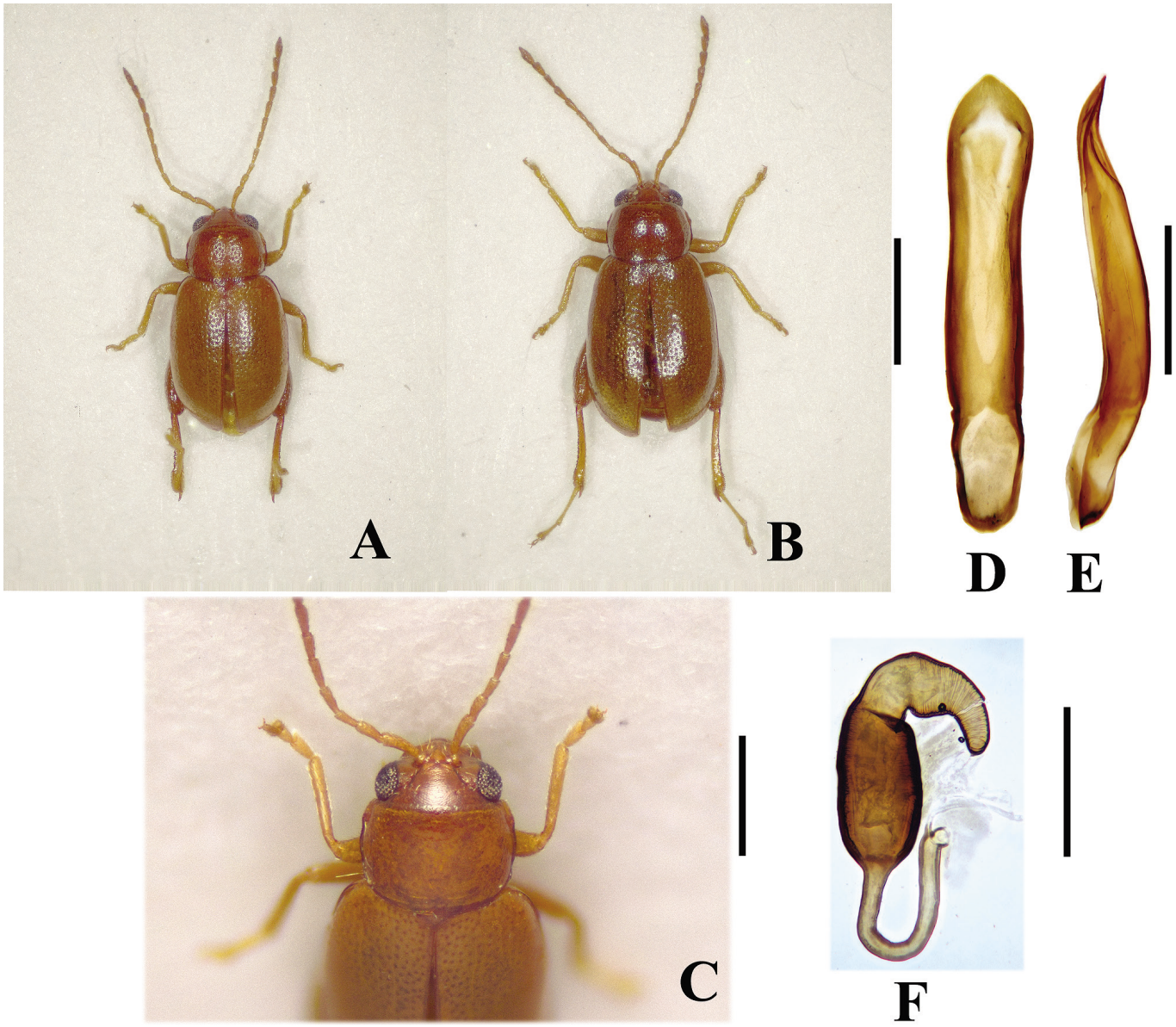

Fig. 2 - *Longitarsus seticollis*. A) dorsal habitus of male; B) dorsal habitus of female; C) head and pronotum of male; D) aedeagus in ventral view; E) aedeagus in lateral view; F) spermatheca. Scale = 1 mm (A,B), 0.5 mm (C,F), 0.25 mm (D,E). / A) habitus dorsale del maschio; B) habitus dorsale della femmina; C) Capo e pronoto del maschio; D) edeago in visione ventrale; E) edeago in visione laterale; F) spermateca. Scala = 1 mm (A,B), 0,5 mm (C,F), 0,25 mm (D,E).

Fig. 3 - Host plant common ragwort (*Senecio jacobaea*) with feeding marks from *Longitarsus* species at Gavião, Algarve region. / Pianta ospite, senecione di San Giacomo (*Senecio jacobaeae*), con segni di alimentazione di *Longitarsus* a Gavião, regione dell'Algarve. (Photo: / Foto: Frank Fritzlar, 9.3.2010).

DISCUSSION

Longitarsus seticollis was described by Mohr (1962) from Ronda (in Málaga province, Southern Spain). Later, Bastazo & García-Raso (1985) described *Longitarsus caroli* also from Ronda mountains, which proved to be a junior synonym of *L. seticollis* (Doguet *et al*., 1996). Subsequently, *Longitarsus seticollis* was treated as a junior synonym of *L. ferruginipennis* (Warchałowski, 1996; Gruev & Döberl, 1997; Döberl, 2010). Here, we demonstrate that *L. ferruginipennis* and *L. seticollis* are distinct, valid species. In fact, the two species are rather different: *L. ferruginipennis* is an ovoid and bicolor, with reddish elytra and the rest of the body yellow (Fig. 1 A-B), while *L. seticollis* is an elliptic, unicolor light brown, (Fig. 2 A-B). The antennal calli and frontal ridge are more evident in *L. seticollis* (Fig. 2 C) than in *L. ferruginipennis* (Fig. 1 C). The punctation on pronotum and elytra is less deep in *L. ferruginipennis*. Besides, the aedeagus in *L. seticollis* in ventral view is more slender, with the distal part widened (Fig. 2 D); in lateral view, it is apically curved towards the dorsal side (Fig. 2 E), whereas in *L. feruginipennis* the aedeagus is not curved apically (Fig. 1 E). The spermatheca in *L. seticollis* has nearly cylindrical body with the ductus uncoiled (Fig. 2 F, and Fig. 3 in Bastazo & García-Raso, 1985), while in *L. ferruginipennis* the body of the spermatheca is somewhat enlarged near the base, with the ductus uncoiled but twice curved (Fig. 1 F).

Longitarsus seticollis lives in shrublands, feeding on *Phlomis purpurea* L. and *Ph. crinita* Cav. (Lamiaceae) (Vela & Bastazo, 1999), *L. ferruginipennis* occurs in meadows and pastures, feding on *Senecio jacobaea* (Asteraceae) (Figs. 3, 4).

Fig. 4 - Habitat of Longitarsus *ferruginipennis* and *L. flavicornis* at Gavião, Algarve region. / Habitat di *Longitarsus ferruginipennis* e *L. flavicornis* a Gavião, regione dell'Algarve (Photo: / Foto: Frank Fritzlar, 9.3.2010).

Fig. 5 - Distribution map of *Longitarsus ferruginipennis* and *L. seticollis* in Iberian Peninsula (Spain and Portugal). / Mappa di distribuzione di *Longitarsus ferruginipennis* e *L. seticollis* nella penisola iberica (Spagna e Portogallo).

Knowledge of habitat requirements of the uncommon species can be useful to search for further records. Data on species, which live at the same places, can also contribute to successful faunistic research. The locality of Arneiro was situated at a dry foodpath between farmland and a pasture at about 180 m above sea level (remark: the label-data from this locality, "500m" is wrong). The other site, Gavião, is situated between Bica village and Conqueiros village north of Pico Alto. The habitat was a wet meadow at the edge of a hillside with cork oak (*Quercus suber*) (Fig. 4). At both localities the specimens were feeding on *Senecio jacobaea* (Fig 3). The species at Gavião lived together with the distinctly larger *Longitarsus flavicornis* (Stephens 1831), which shows the same brick-red color of elytrae and contrasting yellow color of the rest of the body. Another species feeding on *S. jacobaeae* was *L. dorsalis* (Fabricius 1871). The following *Longitarsus* species were collected at the same meadow: *L. juncicola* (Foudras 1860), *L. ordinatus* (Foudras 1860), *L. lycopi* (Foudras 1860) and *L. obliteratus* (Rosenhauer 1847), which feed on Lamiaceae (mainly *Mentha* spp.) in wet habitats, as well as *Cassida vittata* Villers 1789. At Arneiro locality *L. ferruginipennis* also fed together with *L. dorsalis* on the same host plant (*Senecio jacobaea*).

The two species are endemic to Iberian Peninsula. *Longitarsus seticollis* was found in Tarifa (Cádiz, Spain) (unpubl. data, GB), and in some localities of Málaga province (Spain) (Bastazo & García-Raso, 1985; Vela *et al*., 2017), whereas for *L. ferruginipennis* only the type locality (Pozuelo de Calatrava in Ciudad Real province, Middle Spain) (Fuente, 1910) and South Portugal (civil parish of Alte, in Loulé municipality) (present data) are known (Fig. 5).

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