

***Franzyops longipalpis*, a new genus and species of terrestrial Dryopidae from Venezuela (Coleoptera: Dryopidae)**

J. KODADA

Abstract

Franzyops, a new genus of Dryopidae (Coleoptera) and one new species, *F. longipalpis*, are described from a specimen collected by H. Franz in Venezuela. Possible synapomorphies shared by *Franzyops* and *Spalacosostea* KODADA, 1996 are discussed.

Key words: Coleoptera, Dryopidae, taxonomy, Venezuela, South America.

Introduction

Dryopidae are a relatively small family with nearly world-wide distribution. Initially, eight genera and 61 species have been reported from the Neotropical Realm (BROWN 1981). Four additional genera have been described by PERKINS & SPANGLER (1985), SPANGLER (1987), NELSON (1989) and SPANGLER (1991). Five of the Neotropical genera are known only from terrestrial habitats: *Holcodryops* SPANGLER, *Protoparnus* SHARP, *Sostea* PASCOE, *Sosteomorphus* HINTON and *Quadryops* PERKINS & SPANGLER. These five genera are rarely collected, and the descriptions of *Holcodryops*, *Protoparnus* and *Quadryops* are based on single specimens. The new genus and species described below is also based on a single male collected by H. Franz in Venezuela.

Terminology of hind wing venation follows KUKALOVA-PECK & LAWRENCE (1993).



Fig. 1: Habitus of *Franzyops longipalpis* sp.n.

***Franzyops* gen.n.**

Type species: *Franzyops longipalpis* sp.n.

DIAGNOSIS: The new genus may be distinguished from other described dryopid genera by the elongate labial palps with two enlarged terminal segments bearing numerous conspicuous peg-like sensilla with an enlarged apex (Fig. 4).

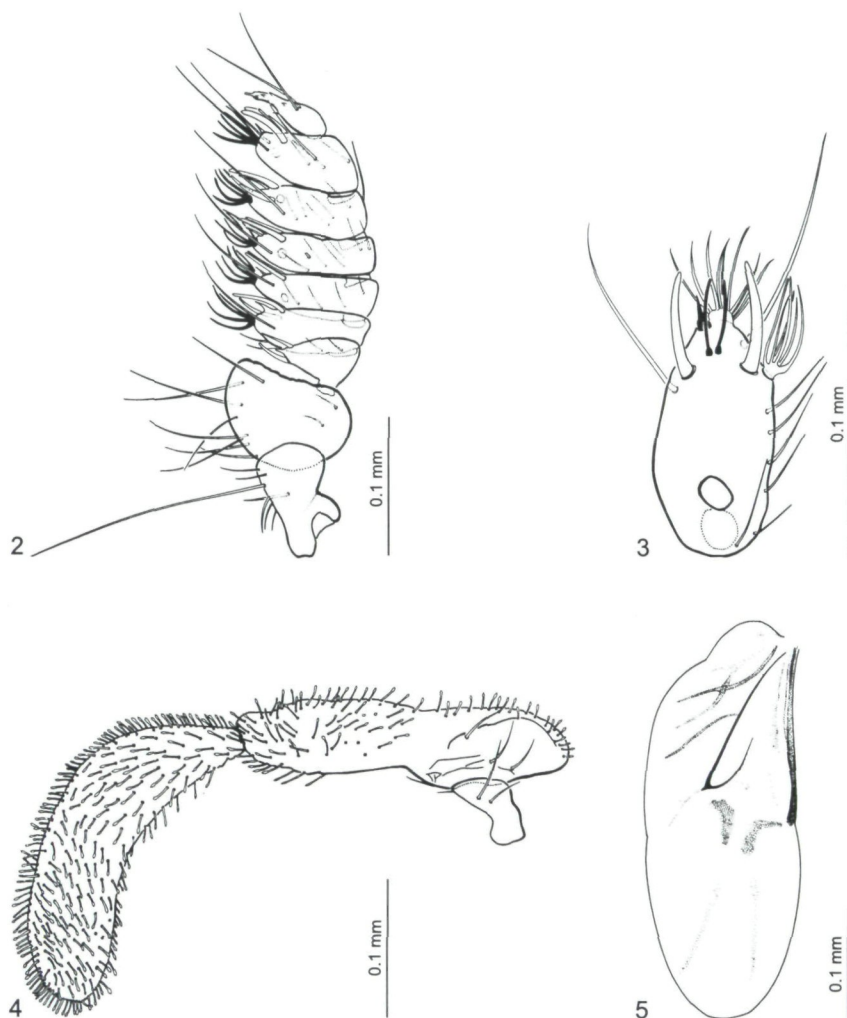
DESCRIPTION (of male): Small and slender; body elongate, subcylindrical, moderately convex

dorsally (Fig. 1). Cuticle with short setae, moderately long setae, and with long, hair-like, acute setae. Long setae erect, moderately long setae suberect or erect, short setae recumbent. Surface lacking encrustations.

Head large, hypognathous, moderately deeply retracted into prothorax; surface with setigerous punctures. Eyes large, protuberant in dorsal and nearly round in lateral view, coarsely faceted, with a few moderately long, hair-like sensilla near middle. Labrum short and concealed; fronto-clypeus moderately arcuate and finely raised on anterior margin, deeply excised for insertion of antennae before eyes, margin of excision strongly raised; fronto-clypeal suture absent. Antennae (Figs. 2, 3) short, nine-segmented, inserted into deep antennal sockets, close together, microreticulate; basal segment subcylindrical; segment 2 large, nearly trapezoidal, moderately produced apically; segments 3 - 9 pectinate, with hair-like, peg-like, dendritic and styloconic sensilla¹. Maxillary palpus short, four-segmented; terminal segment longer than combined length of segments 1 - 3, nearly conical; segments 2 - 4 with hair-like sensilla laterally. Mentum ca. as wide as long, elevated on disc, with hair-like sensilla; ligula narrow. Labial palpus long, three-segmented (Fig. 4); segment 1 short, nearly cylindrical, with a few short, hair-like sensilla; segment 2 long, proximal fourth more distinctly sclerotised, with several hair-like sensilla, distal 0.75 rather less strongly sclerotised, bearing numerous conspicuous peg-like sensilla with enlarged apices; terminal segment as long as the preceding one, with similar peg-like sensilla. Gular region short and wide, transverse.

Thorax: Pronotum wider than long, with two sublateral carinae; anterior margin straight; posterior margin trisinate; lateral margin finely serrate and narrowly explanate, slightly arcuate; anterior and posterior angles moderately protruding and moderately acute. Hypomera widest posteriorly, strongly narrowed anteriorly, nearly triangular in ventral view. Prosternum in front of procoxae as long as metafemur, strongly deflexed, convex in cross section, anterior margin finely raised. Prosternal process narrow, convex in cross section, apex acute, lateral sides finely raised. Mesosternum short, groove for reception of prosternal process narrow and deep. Metasternum as long as prosternum, domed on disc and on posterior third; longitudinal suture distinct along posterior 0.8; transverse suture marked by fine punctures only. Legs moderately long; procoxa transverse, microreticulate; mesocoxa elliptical in ventral view; metacoxa transverse, posteriorly with excavation for femur, punctured on admedian ventral surface; all coxae narrowly separated medially. Trochanters large, with sparse, fine setigerous punctures. Femora ca. as long as tibiae, non-clavate; without setal patch. Tibiae ca. as long as pronotum, straight; without distinct cleaning fringe. Tarsal formula: 5-5-5, tarsomeres simple; claws moderately long, curved, rather slender; empodium bisetose. Elytra subparallel, setose; humeri prominent, rounded; apices acute; each elytron with 9 striae, stria punctures round and deeply impressed. Scutellum subtriangular, as wide as long, sides arcuate. Epipleura rather densely setose, widest anteriorly (ca. as wide as protibia), moderately narrowed near middle and strongly narrowed near apex. Metathoracic wing long, ca. 2.6 times as long as wide, venial forking reduced on medial field (Fig. 5); radial bar reaching middle of anterior margin, strongly pigmented in distal half, area beneath radial bar with two pigmented strips; presumed position of radial cell not bordered by distinct veins posteriorly, proximally and distally; radial cross-vein r4 present as a small pigmented spot only; radius posterior (RP) developed distally; apical field with two interrupted, pigmented strips (possible branches of RP); medial bar (MP1+2) and medial loop distinct, darkly pigmented; medial spur very fine, indistinct; branch of media MP3+4 undivided, lacking connection with cubitus anterior (CuA); CuA forks into CuA1+2 and CuA3+4, first fused with anal anterior AA1, second with AA2; second cubito-anal cell absent; anal posterior (AP) indistinct, slightly pigmented.

¹ Since only one specimen was examined, the study and description of antennal sensilla was limited to observation under a light microscope.

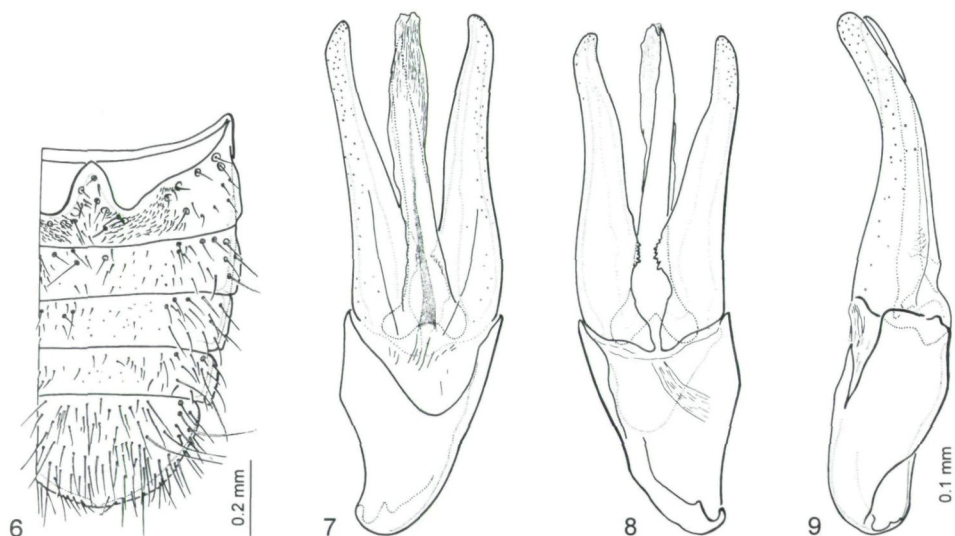


Figs. 2 - 5: *Franzyops longipalpis* sp.n.: 2) right antenna, dorsal view; 3) antennomere 7, lateral view; 4) labial palpus, ventral view; 5) hind wing.

Abdomen with five ventrites, first three connate; ventrite 1 with lateral margin produced along posterior 0.6; ventrites 2 - 4 about equally long, lateral margins moderately produced; ventrite 5 rounded posteriorly, densely setose. Laterosternites on ventrites 1 - 4, low; pleural membrane with seven pairs of functional spiracles. Aedeagus of trilobate type (Figs. 7 - 9).

Female unknown.

DISCUSSION: The male of *Franzyops* resembles males of *Spalacosostea* by the habitus and by the following details: conspicuous peg-like sensilla with an enlarged apex on labial palpus (*Franzyops*) respectively on maxillary palpus (*Spalacosostea*) (see KODADA 1996); large styloconic sensillum on terminal antennomere.



Figs. 6 - 9: *Franzypops longipalpis* sp.n.: 6) abdomen, ventral view; 7) aedeagus, ventral view, 8) same, dorsal view, 9) same, lateral view.

The presence of peg-like and styloconic sensilla mentioned above can be considered as synapomorphies shared by these genera. However, for the solutions of phylogenetic relationships of *Franzypops*, a more detailed analyses of a broader set of characters based on additional material is required.

DISTRIBUTION: Currently known only from Venezuela (Sierra Nevada de Merida).

ETYMOLOGY: Named in honour of Prof. DI DDr. h.c. H. Franz. The name is a combination of Franz and *Dryops*; gender masculine.

Franzypops longipalpis sp.n.

TYPE LOCALITY: Sierra Nevada de Merida, Loma Redunda, 4045 m a.s.l., Venezuela.

TYPE MATERIAL: **Holotype** ♂ (Naturhistorisches Museum Wien): "Sierre [sic] Nevada de Merida, 4000 m Venezuela, lgt. Franz SA 276/ Loma Redunda 4045 m, Gesiebe von Espeletia - Bl."

DESCRIPTION (of male): Length (anterior margin of pronotum to apex of elytra): 2.1 mm; maximum width: 0.8 mm. Coloration reddish brown, head and pronotum darker; antennae, mouth parts and legs yellowish. Surface with three types of hair-like setae: first type nearly as long as interocular distance, conspicuous and erect, arising from distinct sockets; second type moderately long, about as long as half of interocular distance, suberect or erect, arising from narrower socket; third type short, thin, recumbent and arising from fine, inconspicuous sockets. The first type on latero-dorsal portion of cranium, pronotum and on lateral portion of elytra; second type on head, femora, tibiae, pronotum and mainly on elytra; and the third type on medio-posterior portion of head and pronotum.

Head punctate, punctures nearly as coarse as facets, near middle slightly smaller, separated mostly by distance of ca. one facet diameter. Interocular distance about 1.8 times longer than longest eye diameter. Antenna (Figs. 2, 3) with segments 1 and 2 about equally long; first

segment moderately constricted near middle, dorsally with one long and a few short hair-like sensilla; second wider than long, with a few moderately long, hair-like sensilla; segments 3 - 9 forming a short club with sensory fields on antero-median extension of each antennomere; segment 3 half as long as segment 2; segments 4 - 7 about equal in length and about 3 times wider than long; segment 8 longer and narrower than segment 7; segment 9 small, narrowed apically. Antennomeres 4 - 8 similar in sensillar distribution, with the following types of sensilla: (1) two long hair-like sensilla, (2) several thin, short hair-like sensilla, (3) two dendritic sensilla, (4) two thin and two thick, bluntly ended, long, peg-like sensilla, (5) one moderately long styloconic sensillum. Antennomere 3 with peg-like and styloconic sensilla only; antennomere 9 with two long hair-like sensilla, several short, peg-like sensilla, and an apical styloconic sensillum.

Thorax: Pronotum ca. 1.7 times as wide as long, widest near posterior third; disc rather flat, lateral sides strongly deflexed; sublateral carinae prominent along posterior 0.8. Surface of pronotum punctate, punctures moderately smaller than facets, largest on disc, separated by distance of about one facet diameter. Hypomera posteriorly ca. 1.5 times as wide as maximum width of metafemur, surface sparsely punctured, punctures smaller than facets, with long hair-like setae. Prosternum in front of procoxae with punctures ca. as coarse as facets, separated by distance of 1 - 2 facet diameter. Prosternal process as wide as maximum width of metafemur and ca. 3 times as long as wide, narrowed in apical third, with fine setigerous punctures. Metasternum sparsely punctured except domed disc and domed posterior third; punctures as coarse as facets, interstices shiny; metasternal intercoxal process narrow, narrower than maximum width of metafemur, flat. Femora widest near middle; with numerous, fine setigerous punctures. Tibiae moderately thickened distad; with long, erect, dorsal hair-like setae and short, prone, densely spaced setae on mesal portion. Tarsi slightly longer than half length of respective tibia; segment 5 ca. as long as segments 1 - 4 together. Elytra ca. 1.7 times as long as wide; anterior margin slightly arcuate, with two small, but distinct sublateral tubercles; sides not very strongly explanate; disc nearly flat, lateral sides and apical third strongly deflexed; striae punctures densely spaced, coarser than facets, largest on disc, smallest on posterior third; intervals narrower than striae, moderately prominent, with numerous moderately long, hair-like setae and rather scattered, long, hair-like setae.

Abdomen: Midline ratios of ventrites 1 - 5: 3 : 1.9 : 1.9 : 1.8 : 4.1. Ventrite 1 with a few coarser punctures near anterior margin and on abdominal intercoxal process and with two admedian fields of dense, short setae; ventrites 2 - 4 with a few coarser punctures on antero-lateral portion (Fig. 6). Aedeagus with phallobasis short, well sclerotised, tubular in lateral view; parameres ca. 1.3 times as long as phallobasis, tapering apically, slightly curved, with finely denticulate dorso-mesal area near basal third; penis as long as parameres, narrow, tapering apically, finely curved in lateral view; ventral membranous sac distinct, fibula long (Figs. 7 - 9).

BIONOMICS: The holotype was collected by sifting leaves of *Espeletia* at 4045 m a.s.l.

DISTRIBUTION: So far known only from the type locality.

ETYMOLOGY: The species epithet refers to the long labial palpi.

Acknowledgements

I am indebted to Prof. DI DDr. h.c. Herbert Franz (Mödling) for the possibility to study the material which he collected in Venezuela. My friends Vladimír Kováč (Bratislava) and Dr. Manfred A. Jäch (Wien) read the earlier version of the manuscript. Their constructive reviews are acknowledged.

References

- BROWN, H.P. 1981: A distributional survey of the world genera of aquatic dryopid beetles (Coleoptera: Dryopidae, Elmidae and Psephenidae sens. lat.). - Pan-Pacific Entomologist 57 (1): 133 - 148.
- KODADA, J. 1996: *Spalacosostea*, an anomalous new terrestrial dryopid from South-East Asia (Coleoptera: Dryopidae). - Revue suisse de Zoologie 103 (3): 581-605.
- KUKALOVA-PECK, J. & LAWRENCE, J.F. 1993: Evolution of hind wing in Coleoptera. - The Canadian Entomologist 125: 181 - 258.
- NELSON, H.G. 1989: *Postelichus*, a new genus of Nearctic Dryopidae (Coleoptera). - The Coleopterists Bulletin 43: 19-24.
- PERKINS, P.D. & SPANGLER, P.J. 1985: *Quadryops*, new genus, and three new species of arboreal Dryopidae (Insecta: Coleoptera) from Panama and Ecuador. - Proceedings of the Biological Society of Washington 98 (2): 490 - 506.
- SPANGLER, P.J. 1987: *Holcodryops mouli*, an anomalous new genus and species of beetle from Ecuador (Coleoptera: Dryopidae). - Proceedings of the Biological Society of Washington 89: 616 - 621.
- SPANGLER, P.J. 1991: *Guaranius carlosi*, a new genus and species of dryopid beetle from Paraguay (Coleoptera: Dryopidae). - The Coleopterists Bulletin 45 (2): 147-151.

Dr. Ján KODADA

Department of Zoology, Comenius University, Mlynská dolina B-1, 842 15 Bratislava, Slovakia

E-mail: zoologia@fns.uniba.sk

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Koleopterologische Rundschau](#)

Jahr/Year: 1998

Band/Volume: [68_1998](#)

Autor(en)/Author(s): Kodada Jan

Artikel/Article: [Franzyops longipalpis, a new genus and species of terrestrial Dryopidae from Venezuela \(Dryopidae\). 211-216](#)