

# Two new species of the genus *Platycheirus* Le Peletier & Serville, 1828 and a description of female *P. altotibeticus* Nielsen, 2001 (Diptera, Syrphidae) from China.

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Two new species of syrphids from China are described and illustrated. *Platycheirus pusillus* sp. n. is described from eight male and two female specimens, whereas *Platycheirus rubrolateralis* sp. n. is described based on one female specimen. A description of female *P. altotibeticus* Nielsen, 2001, is also given. A key to separate *P. pusillus* from *P. abruzzensis* (v.d. Goot, 1969) and *P. transfugus* (Zetterstedt, 1838), all with short haired fore tibia, is presented.

Key words: *Platycheirus*, new species, *P. altotibeticus*, key, China, Syrphidae

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## Introduction

The species of this paper were collected in 2002 by the second author, in the extreme northwest of Sichuan (Serxu Co.), a part of the Tibetan plateau at 4100–4600 m a.s.l. (Figure 1). The vegetation consists of short high-altitude grass, large parts of it degraded due to overgrazing by yak. The landscape is characterized by grass-covered hills, only at few places with exposed rock, and small rivers in the valleys, which are often bordered with some taller herbaceous vegetation. Woody plants are absent with the exception of dwarf *Salix* L. shrubs to 1 m high, which occur in patches on some of the hills.

The climate in this area is rather harsh, even during summer. On the collecting days the temperatures varied between close to 0°C in the morning and about 15°C in the middle of the day, with strong wind and scattered snow showers on the hills.

## Material and methods

The three species were caught by hand net while hovering among tall herbaceous plants (mainly undetermined *Asteraceae*) in the immediate vicinity of small rivers. The drawings have been made with the aid of a drawing mirror attached to a Wild M5 microscope. The photos were taken with an electronic camera.

## The Species

### *Platycheirus pusillus* sp. n.

*Type material*: Holotype, ♂ dated “CHINA, NW Sichuan vicinity of Tuanjie (Serxu Co.), UTM 47S 0399984 3667047, 4100–4600 m a.s.l., 10–21.07.2002, leg. T. Romig”. Paratypes: 4♂♂1♀ with same data as holotype. Holotype and 1♂1♀ paratypes in coll. Staatliches Museum für Naturkunde Stuttgart (SMNS), 2♂♂ paratypes in coll. T. Romig, 1♂ paratype in coll. T.R. Nielsen.



**Figure 1.** From NW Sichuan, vicinity of Tuanjie (Serxu Co.), herbaceous vegetation bordering little streams amidst heavily grazed grassland. Type locality of *Platycheirus pusillus* sp. n. and *P. rubrolateralis* sp. n., and collecting site for *P. altotibeticus* Nielsen, 2001.

*Diagnosis:* *P. pusillus* is a remarkably small species of the *ambiguus* group, the size of a small *Melanostoma mellinum* (Linnaeus, 1758). Tergites 2–4 each with a pair of yellowish, oblique spots. The species resembles *P. abruzzensis* (v.d. Goot, 1969) and *P. transfugus* (Zetterstedt, 1838) but separates from those in e.g. a rather produced face and a broad, shining median stripe in face (see key in Table 1).

## Description

### MALE (Figures 2, 3A–G)

*Head:* Figures 3A–D. Eye angle 100°. Frons densely covered by metallic whitish yellow dusting, lunulae shining black, the hairs are white. Antennae black, 3<sup>rd</sup> joint short, only 1.2x longer than broad. Face rather produced, central prominence and upper mouth edge equally so. Face similarly dusted as frons along the sides, leaving a broad black stripe in the middle. Mouth

edge and genae shining black. Occiput with greyish yellow dusting. Ocellar triangle anteriorly black haired, posteriorly white haired.

*Thorax:* Figures 3E–F. Scutum and scutellum shining black with a brassy lustre. The hairs yellowish white, about as long as maximum thickness of hind femur. Scutellum without long bristly hairs on posterior margin. Pleura black with light whitish yellow dusting. – *Legs:* Fore and mid femur orange, with a brown shadow in the middle. Fore femur behind with a long curled bristle near apex, followed by a row of rather soft bristles. The bristles vary in colour: the curled apical bristle is black in most specimens, but may be yellow white like the following bristles. The hairs at base of fore femur are scarcely as long as thickness of femur. Fore and mid tibia short haired, without posterolateral bristles. Apical half of all tibia and tarsi darkened, greyish black. Hind femur black, except for base and apex broadly orange. Hind basitarsus slender, about as thick



**Figure 2.** *Platycheirus pusillus* sp. n. male.

as hind tibia at apex. – *Wing*: Stigma and veins basally yellow brown, distally darker. Calypter white, the rim yellow. Haltere yellow.

*Abdomen*. Figure 3G. Tergite 1 metallic black, shining. Tergites 2–4 black, each with a pair of oblique orange yellow spots. The spots are dulled by light whitish dusting. Tergite 5 and following segments shining black. The hairs along the side margins of the tergites white, the short hairs on tergite disc follow the ground colour. Sternites blackish, the hairs white.

#### FEMALE (Figures 3H–J)

The female differs from the male as follows:

*Head*: Figures 3H–I. Frons shining black with a pair of triangular, grey dust spots which together occupy about half the width of frons. 3<sup>rd</sup> antennal joint broader than in the male. Face with greyish yellow dusting at the sides, leaving a broad,

shining black medial stripe, from upper mouth edge and above central prominence. Anterior part of vertical triangle and frons posteriorly black haired, head otherwise with whitish yellow hairs.

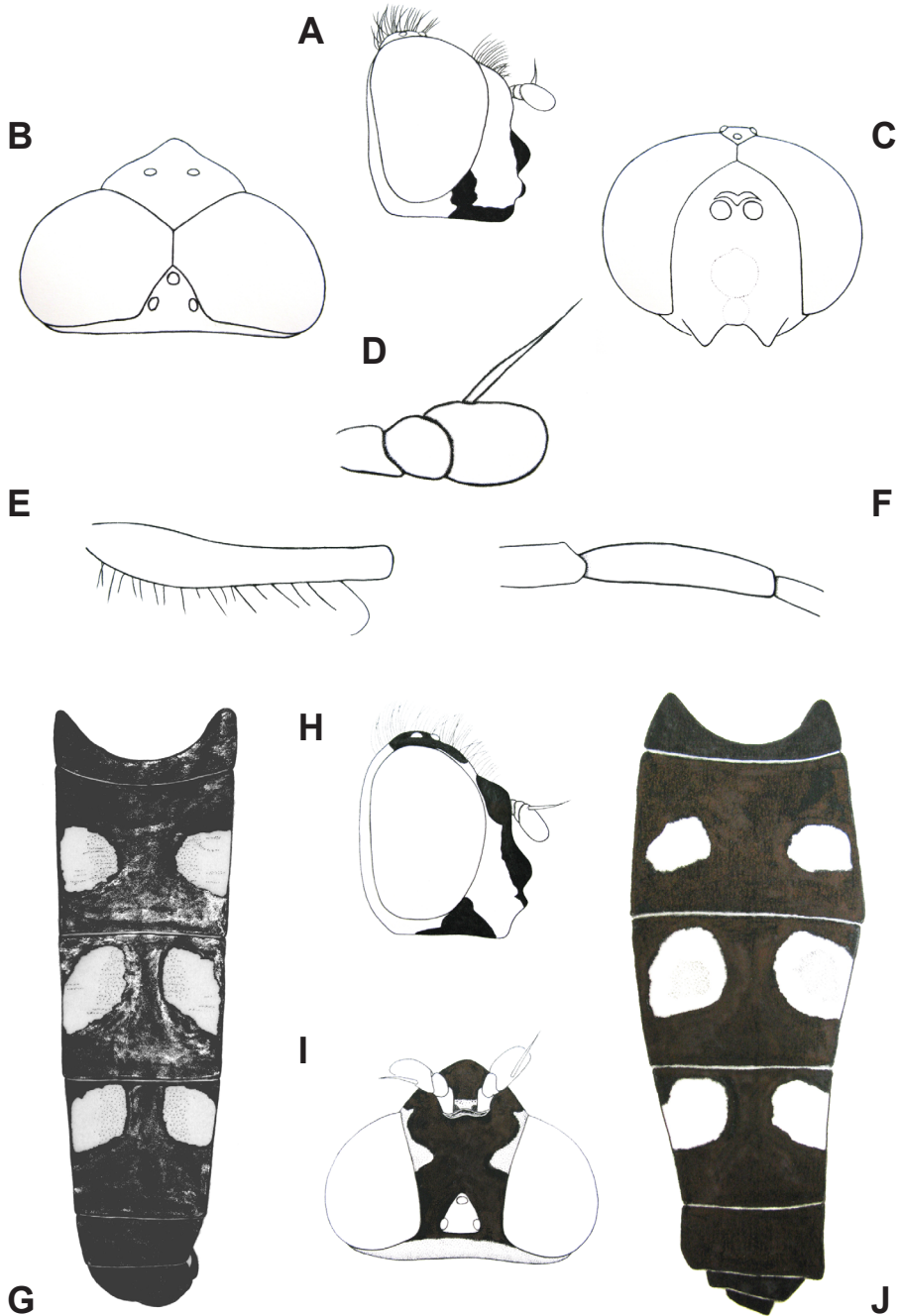
*Thorax*: The hairs on scutum and scutellum yellow and shorter than in the male, as long as half the maximum thickness of hind femur. – *Legs*: Fore and mid femur clearly orange. Hind femur with a broad black ring on apical half, but leaving the apex broadly orange. Fore and mid tibia with apical third, and hind tibia with about apical half black. All tarsi blackish, the extreme base of basitarsus orange.

*Abdomen*: Figure 3J. The spots on tergites 2–4 rounder, less dusted and more shining than in the male.

*Body length*: Male 5.6–6.1mm, female 5.5 mm.

*Wing length*: Male 4.8–5 mm, female 4.9 mm.





**Figure 3.** *Platycheirus pusillus* sp. n. Male: **A:** head, lateral view, **B:** head, dorsal view, **C:** head seen from in front, **D:** antenna, **E:** fore femur, **F:** hind basitarsus, **G:** abdomen. – Female: **H:** head, lateral view, **I:** head, dorsal view, **J:** abdomen.

**Table 1.** Key to separate *Platycheirus pusillus* sp. n. from *P. abruzzensis* (v.d. Goot, 1969) and *P. transfugus* (Zetterstedt, 1838), all with short haired fore tibia.

**MALES**

1. Central prominence and upper mouth-edge obviously more produced than frons. Face with a broad, shining black medial stripe, the stripe is covering about 1/5 the width of face. Scutum and scutellum with a brassy tinge ..... ***pusillus* sp. n.**
- Central prominence and upper mouth-edge only slightly more produced than frons. Face with a narrow black medial stripe, the stripe is covering only about 1/7 the width of face. Scutum and scutellum with a steel blue or bluish black tinge ..... **2.**
2. Fore femur postero-laterally near apex with a row of rather strong bristles of uniform thickness and which narrow rather abruptly towards their apices. Pleurae rather heavily dulled by white dusting, almost as dense as that on occiput. Frons and vertical triangle at least partly white haired. Abdomen rather long and narrow, tergite 2 longer than wide..... ***abruzzensis* (v.d. Goot, 1969)**
- Fore femur postero-laterally near apex with a row of hairs which are tapering towards their apices. Pleurae lightly dulled by white dusting, obviously less dense than that on occiput. Frons and vertical triangle black haired. Abdomen rather short; tergite 2 as long as broad..... ***transfugus* (Zetterstedt, 1838)**

**FEMALES**

1. Central prominence and upper mouth-edge obviously more produced than frons. Face with a broad, shining black medial stripe, the stripe is covering about ¼ the width of face..... ***pusillus* sp. n.**
- Central prominence and upper mouth-edge only slightly more produced than frons. Face with a narrow black medial stripe, the stripe is covering only about 1/6 the width of face..... **2.**
2. 3<sup>rd</sup> antennal segment about 1.5 times as long as wide. Pleurae rather heavily dulled by white dusting, almost as dense as that on occiput. Anteromedian part of hind tibia with a row of white hairs which are about as long as the diameter of the tibia..... ***abruzzensis* (v.d. Goot, 1969)**
- 3<sup>rd</sup> antennal segment about 1.2 times longer than wide. Pleurae lightly dulled by white dusting, obviously less dense than that on occiput. Anteromedian part of hind tibia with only short hairs, the hairs no longer than half the diameter of the tibia..... ***transfugus* (Zetterstedt, 1838)**

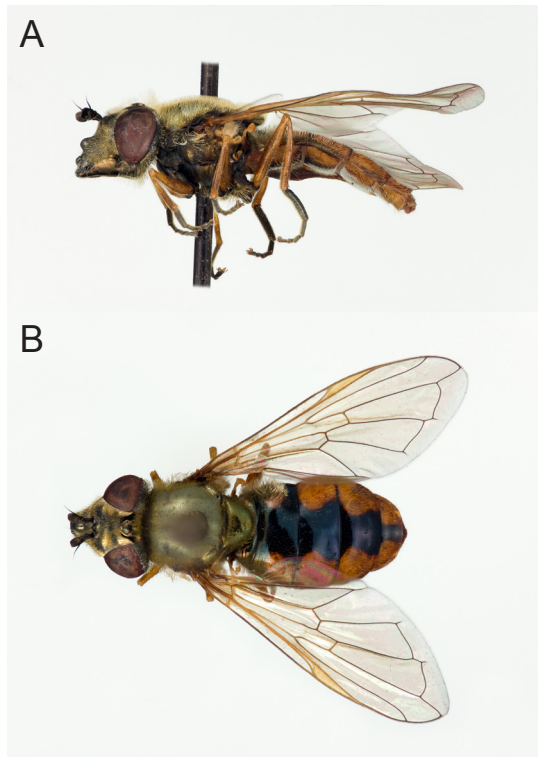
*Etymology:* *Pusillus* (Latin) means tiny, referring to the small body size of the species.

*Ecology:* The species was caught within tall herbaceous vegetation along rivers, figure 1. These small patches, which are interspersed within large stretches of short grassland, provide the only microenvironment which is reasonably sheltered from the incessant strong wind. It is highly probable also to provide the habitat for the larvae.

***Platycheirus rubrolateralis* sp. n.**

*Type material:* Holotype, ♀ dated “CHINA, NW Sichuan vicinity of Tuanjie (Serxu Co.) UTM 47S 0399984 3667047, 4100–4600 m a.s.l., 10–21.07.2002, leg. T. Romig, deposited in coll. SMNS.

*Diagnosis:* A medium sized species, the female with a rather broad abdomen. Face much produced. Femora and tibiae orange red, the tarsi black. We should await to see the male, but when considering the protruding face profile, it is possible that the species belongs to the *Platycheirus albimanus*



**Figure 4.** *Platycheirus rubrolateralis* sp. n., female. **A:** dorsal view, **B:** lateral view.

group (*manicatus* subgroup) (Vockeroth 1990).

### Description

FEMALE (Figures 4 A–B).

**Head:** Face much produced, mouth edge more so than central prominence, shiny black with brassy reflections. Frons with a small greyish triangular dust spot on each side. Antennae black, 3<sup>rd</sup> segment squarish. Face and occiput with greyish yellow dusting. All hairs of head yellow.

**Thorax:** Scutum and scutellum greyish green, dulled, yellow haired. Pleurae shiny bronzy black, yellow haired. – **Legs:** Orange red, only the tarsi black. – **Wing:** Stigma and the veins on about basal half orange, greyish brown on the apical half. Calypter white, the rim yellow. Haltere light orange.

**Abdomen:** Tergite 1 black. Tergites 2–5 orange, tergites 2–4 each with a hourglass black mark in the middle, tergite 5 with a median broad black streak. Sternite 1 orange, sternites 2–5 orange with a dark brown streak in the middle. The abdominal hairs follow the ground colours of the integument.

**Body length** (from frons till tip of abdomen) 6.3 mm. **Wing length** 5.5 mm.

**MALE:** unknown.

**Etymology:** The species name refers to the reddish sides of the female abdomen. *Rufo* (Latin) means red.

**Ecology:** The species was caught within tall herbaceous vegetation along rivers, figure 1. These small patches, which are interspersed within large stretches of short grassland, provide the only microenvironment which is reasonably sheltered from the incessant strong wind. It is highly probable also to provide the habitat for the larvae.

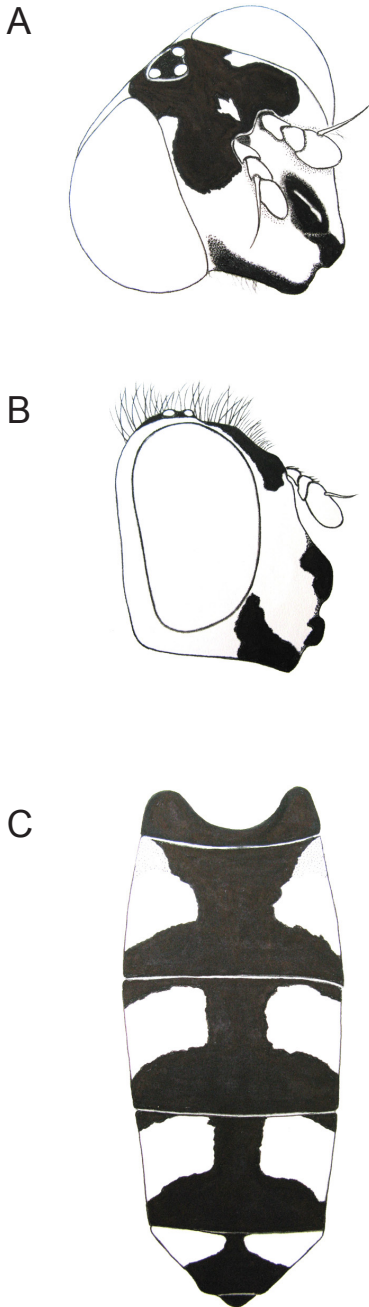
### ***Platycheirus altotibeticus* Nielsen, 2001**

**Material examined:** 3♂♂, 1♀ CHINA, NW Sichuan vicinity of Tuanjie (Serxu Co.) UTM 47S 0399984 3667047 4100-4600 m 10.-21.07.2002 leg. T. Romig. 2♂♂, 1♀ in coll. Romig, 1♂ in coll. T.R. Nielsen.

*Platycheirus altotibeticus* belongs to the *albimanus* group (Vockeroth 1990) and was described on basis of a single male from Tibet (Nielsen 2001: 11-13).

**Short diagnosis of the male:** head broad, frons angle 130°. Fore legs yellow, tibia broadening evenly towards apex. Basitarsus oblique rectangular in shape. Fore femur behind on basal half with a dense row of some sickle-shaped dark hairs. Abdomen with 4 pairs of yellow spots. Thorax and abdomen white haired.

DESCRIPTION OF FEMALE (Figures 5A–C)



**Figure 5.** *Platycheirus altotibeticus* Nielsen, 2001, female. A: head, latero-dorsal view, B: head, lateral view, C: abdomen.

*Head:* Figures 5A, B. Face broad, occupying about two thirds of width of head. Vertical triangle, frons and lunulae shining black, except for two small white dust spots and for a slightly pollinose transverse depression in the middle of frons; black haired. Face slightly produced, with light silvery white pollinosity; central prominence and mouth edge black. Genae and postocular orbits with a dense, similar pollinosity as face. The hairs along the eye margins black; central parts of face, genae and postocular orbits white haired. Antennae black.

*Thorax:* scutum and scutellum shining black with a light bluish grey or brassy metallic lustre, almost all without pollinosity and with short yellow white and scattered long black hairs. Pleurae with moderate sulvery white pollinosity, white haired. – *Legs:* fore and mid femur and tibia orange yellow, the tarsi grey brown. Hind femur broadly yellow at base, narrowly so at apex. Tibia broadly yellow at apex and in the middle, otherwise black. Hind tarsi black on dorsal side, brownish yellow ventrally. – *Wings:* the whole wing microtrichose. Veins brownish black, stigma yellow brown. Calypter white yellow, the rim greyish brown. Halter yellow.

*Abdomen:* Figure 5C. Tergite 1 metallic bluish black, lightly white pollinose. Tergites 2–5 black with blue reflections, each tergite with a couple of rectangular yellow orange, white pollinose spots. Tergites 6–7 yellow, darkened mediodorsally. The long hairs along the side margins yellow, the short hairs on dorsal parts of the tergites mainly follow the ground colour. Sternite 1 grey brown, sternites 2–3 yellow with a dark spot in the middle, the following sternites yellow, lightly white pollinose. The hairs yellow.

*Body length* (from frons till tip of abdomen) 9.2 mm. *Wing length* 7.6 mm.

*Ecology:* The species was caught within tall herbaceous vegetation along rivers, figure 1. These small patches, which are interspersed

within large stretches of short grassland, provide the only microenvironment which is reasonably sheltered from the incessant strong wind. It is highly probable also to provide the habitat for the larvae.

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