

Review of the *Phaonia consobrina* group (Diptera: Muscidae) from China, with descriptions of three new species

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ABSTRACT

The *P. consobrina* group from China is studied, and three new species are described: *P. curvisetata*, sp. n., *P. niximountaina*, sp. n. and *P. subpillipes*, sp. n.. A key to the identification of males of the 19 species of Palaearctic and Oriental zoogeographic regions and distributions are also given.

Key words: China, Diptera, Muscidae, *P. consobrina* group, new species, key.

INTRODUCTION

Robineau-Desvoidy (1830) established *Phaonia*, with *P. viarum* as the type species. The *Phaonia* species from the Palaearctic Region have been divided into 21 groups (Ringdahl, 1949; Hennig, 1963; Zinovjev, 1981). Ma *et al.* (2002) divided Chinese species of the genus *Phaonia* into 38 groups. *P. angelicae* group, firstly presented by Ringdahl (1949), was divided into three subgroups by Zinovjev (1981) and Xue (2006) revised *P. consobrina* subgroup as *P. consobrina* group. *P. consobrina* group is similar to *P. angelicae* group, but species of *P. consobrina* group are different from the latter that cerci are deeply concave in the middle. So *P. consobrina* group is distinguished by its basisternum of prosternum being bare; majority of male frons is narrower than twice of postpedicel width, without *ors*; epistoma protruded from frontal angle in profile; scutellum is black, without yellow area; notopleuron with hairs; mid tibia with 2 rows of *p*, hind tibia without apical *pv*; abdomen without yellow area; the male cerci are concave deeply in posterior view (Fig. 1), specialization distinct.

Genus *Phaonia* has more than 820 species that are known all over the world. The habitat of most species in *Phaonia consobrina* group are found at alpine and cold areas, also a small group, consisting of only 19 species are found in Palaearctic and Oriental zoogeographic regions, including 17 species in China. In this paper, three new species are described, as well as the key for these species and the distribution of known species are put forward.

MATERIALS AND METHODS

The specimens for this paper were examined sweeping brushwood in mountainous regions of northeast, southeast and central China. Genital structures were detached

from the body, cleared by warming in a 10% NaOH solution (approximately 120°C) for several minutes, placed in a droplet of glycerol and observed under a compound light microscope. The type specimens of three new species are all deposited in the Institute of Entomology, Shenyang Normal University, Shenyang, China.

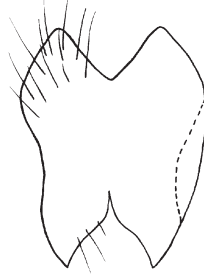


Fig. 1. The characteristic of male cerci of *Phaonia consobrina* group in posterior view.

The morphological terminology follows that of McAlpine (1981). Absolute measurements are used for the body length in millimeters (mm). The following abbreviations are used for characters: ors (orbital setae), fr (frontal setae), prst acr (presutural acrostichal setae), acr (acrostichal setae), dc (dorsocentral setae), post dc (postsutural dorsocentral setae), ial (intra-alar setae), pra (prealar setae), av (anteroventral setae), ad (anterodorsal setae), pd (posterodorsal setae), p (posterior setae), pv (posteroventral setae), v (ventral setae), r-m (radio-medial cross-vein), dm-cu (medio-cubital cross-vein), R₄₊₅ (branch of radius), M (medial vein), Mt. (Mountain).

Key to species of *P. consobrina* group from Palaearctic and Oriental (♂♂)

1. Hind tibia without additional *pd* subbasally.....2
 - Hind tibia with additional *pd* subbasally.....14
2. Post dc 3.....3
 - Post dc 4.....8
3. Katepimeron bare.....*Phaonia subnudiseta* Xue, 1996
 - Katepimeron with hairs.....4
4. Frons slightly wider than anterior ocellus.....
 -*Phaonia angustinudiseta* Xue, 1996
 - Frons at least as wide as postpedicel.....5
5. Eyes sparsely covered with ciliae, fronto-orbital plate upper with 2 *ors*...
 -*Phaonia grunicornis* Xue, 1996
 - Eyes covered with thick ciliae, fronto-orbital plates without *ors*.....6
6. Frontal vitta twice as wide as fronto-orbital plates; hind tibia with 3 *av* ...
 -*Phaonia nudiseta* (Stein, 1907)
 - Frontal vitta disappeared in the middle, with a *sew* only; hind tibia with 4 *av*.....7

Review of the Phaonia consobrina Group from China

7. Calypters white and slightly yellow, halter brown yellow; fore tibia with 1-2 p, mid tibia with 2 ad.....*Phaonia hirtirostris* (Stein, 1907)
 -Calypters blackish, margin of calypter and halter black; fore tibia with 6-7 p, mid tibia with 4 ad...*Phaonia nigrinudiseta* Xue and Zhang, 1996
8. Fore tibia without medial p, hind tibia red-brownish, half of distal hind tibia with 2 pd, which are equal in length.....
*Phaonia dupliciseta* Ma and Cui, 1992
 -fore tibia with medial p, hind tibia black, with 1 pd or absent.....9
9. the longest arista hair at most half of postpedicel width.....10
 -the longest hair length at least two thirds of postpedicel width.....12
10. Mid tibia without ad, frons subequal in width to anterior ocellus.....
 *Phaonia niximountaina* Xue and Yu, sp. n.
 -Mid tibia with ad 1, frons at least twice as wide as anterior ocellus....11
11. The longest arista hair length one fifth of postpedicel width, frons twice as wide as anterior ocellus, calypters white to light yellow, halter brown, hind tibia with 3 av.....*Phaonia curvisetata* Xue and Yu, sp. n.
 -The longest arista hair length half of postpedicel width, frons subequal in width to outer margin of posterior ocellus, calypters yellow, halter orange, hind tibia with 2 av.....*Phaonia paucispina* Feng and Cui, 1988
12. parafacial slightly wider than postpedicel; calypters brown.....
*Phaonia cercoechinata* Fang and Fan, 1986
 -parafacial 1.5 times as wide as postpedicel, calypters dirt white.....
*Phaonia cercoechinatoida* Feng and Ma, 2002
13. Halter yellow, fronto-orbital plate adjoined in medial.....
*Phaonia consobrina* Zetterstedt, 1838
 -Halter brownish black, fronto-orbital plate not adjoined in medial.....
*Phaonia cercoechinatoida* Feng and Ma, 2002
14. Post dc 3.....*Phaonia subpilipes* Xue and Yu, sp. n.
 -Post dc 4.....15
15. Fore tibia with 1 medial p.....*Phaonia pilipes* Ma and Feng, 1986
 -Fore tibia with 2-3 medial p.....16
16. Scutum only with one inconspicuous medial vitta.....
*Phaonia spuripilipes* Fang and Fan, 1992
 -Scutum covered with 4 distinct black vittae.....17
17. Frons about equal to postpedicel in width.....
*Phaonia gergetica* Zinovjev, 1994
 -Frons about equal to half of postpedicel in width.....18

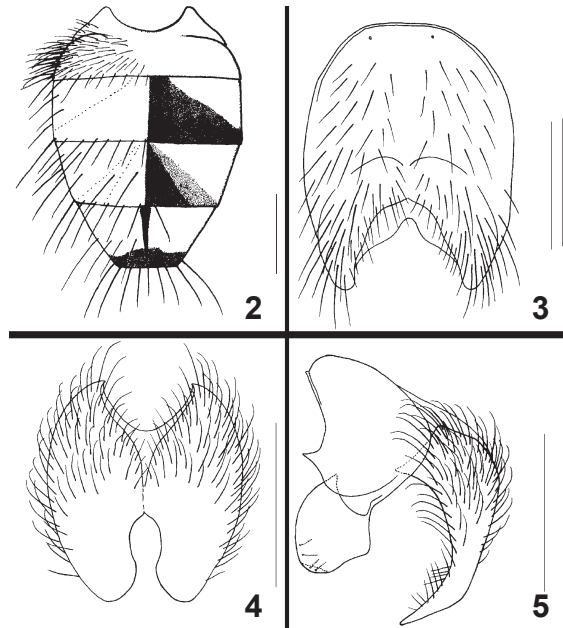
18. Frons equal in width to anterior ocellus, prementum 4 times as long as height, abdomen sparsely covered with pruinosity.....

.....*Phaonia holcocerca* Feng and Ma, 2000

-Frons equal in width to or slightly narrower than twice of anterior ocellus, prementum 3 times as long as height, abdomen covered with dense pruinosity.....*Phaonia hesperia* feng, 2004

Descriptions of new species

Phaonia curvisetata Xue and Yu, sp. n. (Figs. 2-5)



Figs. 2-5. *Phaonia curvisetata* Xue and Yu, sp. n. (holotype). 2. Male abdomen (dorsal view). 3. Male sternite 5 (ventral view). 4. Male cerci (posterior view). 5. Male terminalia (profile view). Scales: 2, 1.0 mm; 3, 0.5 mm; 4, 0.5 mm; 5, 0.5 mm. Male: Body length 7.1-8.1 mm.

Head: Eyes covered with thick medium long brownish-yellow ciliae; frons about twice as wide as anterior ocellus, fronto-orbital plates touching, frontal vitta just situated one third of prementum; fr 10-11 pairs, expanding to both sides of anterior ocellus, the upper 3-4 pairs short and small, without *ors*; fronto-orbital plate and gena covered with light grey pruinosity, parafacial wide, covered with copper-grey pruinosity, about 1.5 times as wide as postpedicel; antenna black, postpedicel 1.8-2.0 times as long as width, arista short haired, the longest hairs shorter than basal diameter of arista; facial carina low, vibrissal angle situated in front of frontal angle in profile; anterior margin of gena with 1-2 rows of subvibrissal setae, gena as high as about two fifths of eye, genal and postgenal hairs entirely black; proboscis long, prementum sparsely covered with pruinosity, 5.0 times as long as wide, palpus thin and long, slightly shorter than

Review of the Phaonia consobrina Group from China

the length of prementum, labellum long, about twice as long as prementum, without distinct prestomal teeth.

Thorax: Black in background color, covered with light-grey pruinosity; scutum with 4 black vittae, the inner vittae not reaching scutoscutellar suture; scutellum black; acr 0+1, dc 2+4, ial 0+2, pra long and strong, about twice as long as posterior notopleural seta; notopleuron and katepimeron with hairs, the lower and flank of scutellum, basisternum of prosternum and meron all bare; katepisternal setae 1+2, spiracle big, anterior spiracle brown, posterior spiracle dark brown.

Wings: Brownish, with basal of wings brown, wing veins fuscous, basicosta black, costal spine slightly shorter than length of r-m, dorsal and ventral of radial node bare, R₄₊₅ and M straight in terminal, the surroundings of r-m and dm-cu not clouded; calypters white to light-yellow and haltere brown.

Legs: Entirely black; fore tibia with 2 medium p and 1-2 pv, mid femur without distinct av, pv row complete, 5-6 setae strong on basal half, mid tibia with 1 ad and 3-5 pd, sub-medium pv 1; hind femur with complete av row, becoming long and strong apically, 5-6 long and strong pv on basal half; hind tibia with 3 av, 5-6 ad in basal two thirds, 2 setae strong in distal, 1 pd in sub-basal, 5-7 setae behind the medium of hind tibia, without apical pv; *claws and pulvillus long and strong*, subequal in length to fifth tarsomere, middle and hind legs slightly short, subequal in length to fourth tarsomere.

Abdomen: Black, sparsely covered with blue-grey pruinosity, tergite 3 with wide laddered patches, tergite 4 with black regular triangled patches, tergite 5 with black medial vitta, both sides without shining patch, vitta gloss black, sternite 1 bare.

Female: Unknown.

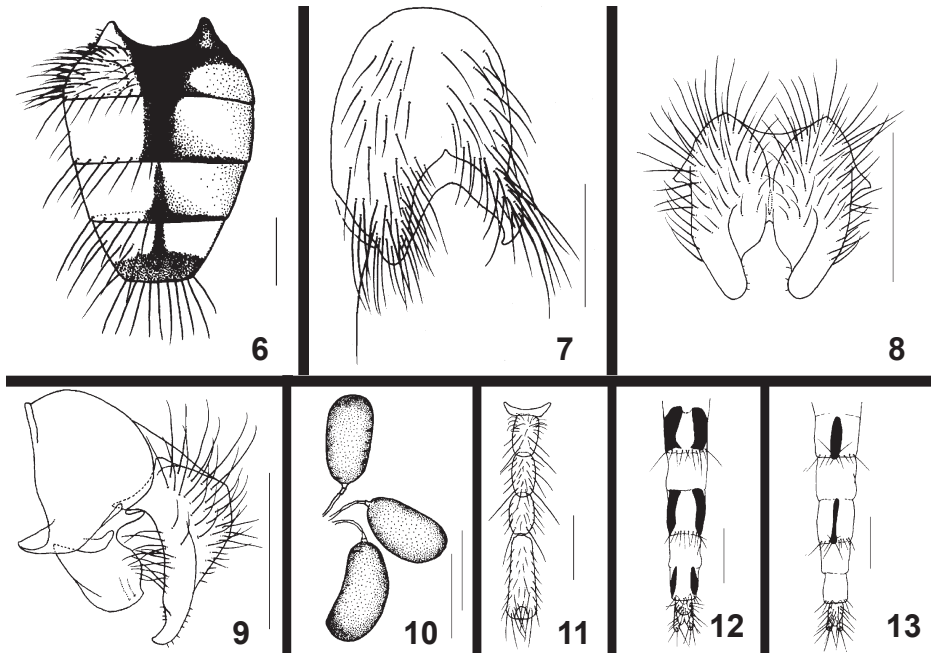
Etymology: The specific name refers to the male cerci with most setae curve.

Diagnosis: This new species is similar to *P. paucispina* Feng and Cui, 1988, but differs from it in male characters: frons about twice as wide as anterior ocellus (frons as wide as outer margin of posterior ocellus in *P. paucispina*); wing brown on base (wing yellow on base in *P. paucispina*); halter brown (halter red yellow in *P. paucispina*); hind femur with 5-6 long and strong pv on basal half (hind femur with a row of pv completely in *P. paucispina*), cerci setae fringe-shaped curve (cerci setae stright in *P. paucispina*), anterior margin of cersus being curved backward in profile (anterior margin of cersus slightly stright in profile in *P. paucispina*), distal of free part wide (distal of free part thin and long in *P. paucispina*), inner margin without hair (inner margin with hairs in *P. paucispina*), posterior margin of surstylus curve in profile (posterior margin of surstylus stright in profile in *P. paucispina*). This new species is also similar to *P. niximountaina*, sp. n., but it differs from the latter in male characteristics: frons about twice as wide as anterior ocellus (frons subequal in width to anterior ocellus in *P. niximountaina*), gena about two fifths of eyes in height (gena about one fourth of eyes in height in *P. niximountaina*), prementum 5.0 times as long as width (prementum 4 times as long as width in *P. niximountaina*), calypters white to light yellow (calypters yellow in *P. niximountaina*), mid femur without distinct av (mid femur with av row in *P. niximountaina*), mid tibia ad 1 (mid tibia without ad in *P. niximountaina*), hind tibia

with 5 to 6 *ad* in basal two thirds (hind tibia with 2 *ad* in *P. niximountaina*), distal of cersus wide (distal of cersus narrow in *P. niximountaina*), anterior margin of cersus being curved backward in profile (anterior margin of cersus slightly stright in profile in *P. niximountaina*), posterior of surstylus without hairs (posterior of surstylus with hairs in *P. niximountaina*).

Material examined: *Holotype*. 1♂ (IESNU), China, Mount Moirigkawagarbo (27.0237° N, 99.2607° E; 2500 m), Yunnan Province, 2500 m, 30.05.2013, Yu Teng. *Paratypes*. 20♂♂ (IESNU), same data as holotype; 9♂♂ (IESNU), China, Mount Baimang, Yunnan Province, 4400 m, 30.05.2013, Sun Hongkui; 8♂♂ (IESNU), China, Mount Baimang, Yunnan Province, 4400 m, 30.05.2013, Zhang Xiang.

***Phaonia niximountaina* Xue and Yu, sp. n. (Figs. 6-13)**



Figs. 6-13. *Phaonia niximountaina* Xue and Yu, sp. n. (holotype). 6. Male abdomen (dorsal view). 7. Male sternite 5 (ventral view). 8. Male cerci (posterior view). 9. Male terminalia (profile view). 10. Female spermatheca. 11. Female sternites 1-5. 12. Female ovipositor (dorsal view). 13. Female ovipositor (ventral view). Scales: 6, 1.0 mm; 7, 0.5 mm; 8, 0.5 mm; 9, 0.5 mm; 10, 0.2 mm; 11, 1.0 mm; 12, 1.0 mm; 13, 1.0 mm.

Male: Body length: 7.8-8.2 mm.

Head: Eyes covered with thick long brown ciliae, frons subequal in width to anterior ocellus, fronto-orbital plate touching in middle, fr 11-12 pairs, reaching level of anterior ocellus, 5 short pairs of fr on upper half, subequal in length to ciliae of eyes, without ors; fronto-orbital plate, parafacial and gena covered with brown pruinosity, parafacial with a big golden-yellow patch at base of antenna, parafacial about 1.5 times as wide as flagellomere 1; antenna black entirely, flagellomere 1 about 1.8-2.0 times as long

Review of the Phaonia consobrina Group from China

as wide, arista with short ciliae, longest hairs about 1.5 times as long as width of basal diameter of arista; epistoma situated in front of frontal angle, anterior margin of gena with 2-3 rows of subvibrissal setae; gena about one fourth of eye height, hairs on dorsal occiput and postgena black; prementum pruinose, 4.0 times as long as wide; palpus black, longer than prementum.

Thorax: Black in background, sparsely covered with grey pruinosity, scutum with 4 wide black vittae, 0+1 acr, 2+4 dc, 0+2 ial, pra subequal to posterior notopleural seta, scutellum black, lateral and lower scutellum bare, notopleuron and katepimeron with hairs, basisternum of prosternum, anepimeron and meron all bare, spiracles dark brown, 1+2 katepisternal.

Wings: Veins brown, basicosta black; costal spine short and small, radial node bare, surrounding of r-m and m-m distinctly clouded; r_{4+5} and m_{1+2} straight, calypter yellow and halter dark brown.

Legs: Entirely black, fore tibia without long ventral hair, 2 p, 2 pv, apical pv strong, as long as two thirds of tibia length, mid femur with haired av row, pv row complete and long, mid tibia without ad, but with 4 p, 1-3 pv; hind femur with av complete row of av, pv row on basal half, hind tibia with 3 av, 2 ad, 1 pd, without apical pv.

Abdomen: Black, oviform in dorsal view, covered with yellow pruinosity, tergite 3 with black laddered patches, tergite 4 with black medial triangled patches, tergite 5 with black medial vittae, posterior margin of tergite 3, 4 and distal half of tergite 5 without patch, abdomen with thick long hairs, without spark patch, sternite 1 bare.

Female: Forns two fifths of head width, or 1, fronto-orbital plates with small setae; both fore and mid tibia with 2ad, tergite 3-5 medial to both sides with wide and oblate triangled patches, other characters same as male.

Etymology: The specific name refers to the type locality.

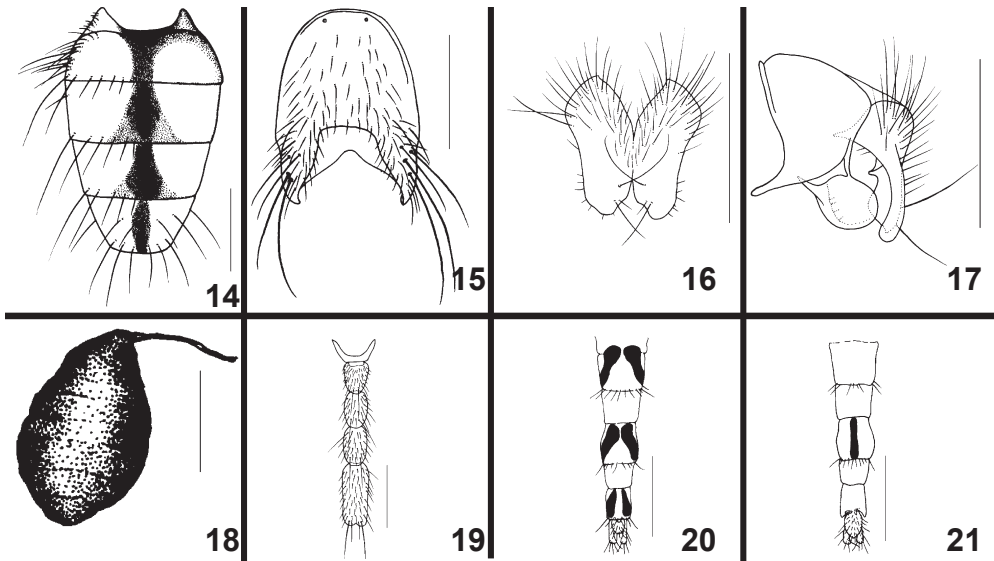
Diagnosis: This new species is similar to *P. paucispina* Fang and Cui, 1988, but differs from it in male characters: the longest arista hairs 1.5 times as long as the arisa basal diameter (the longest arista hairs length half of postpedicel width in *P. paucispina*), gena about one fourth of eyes in height (gena about half of eyes in height in *P. paucispina*), veins brown (veins brownish in *P. paucispina*), halter fuscous (halter red yellow in *P. paucispina*), mid tibia without ad (mid tibia with 1 ad in *P. paucispina*), hind femur with pv row on basal half (hind femur with pv row completely in *P. paucispina*), hind tibia with 3 av (hind tibia with 2 av in *P. paucispina*), posterior of surstylus with hairs (posterior of surstylus without hairs in *P. paucispina*), surstylus protuberant backward distinctly (surstylus protuberant backward in *P. paucispina*).

Material examined: *Holotype*. 1♂ (IESNU), China, Yunnan Province, Mount Luquan (25.0458° N, 102.7100° E; 4100 m), 04.06.2000, Li Fuhua. 1♀ (IESNU), same data as holotype. *Paratypes*. 4♂♂ (IESNU), 1♀ (IESNU), same data as holotype.

***Phaonia subpilipes* Xue and Yu, sp. n. (Figs. 14-21)**

Male. Body length 6.5-7.3mm.

Head: Eyes covered with long ciliae; frons about 2.5 times as wide as anterior ocellus, frontal vitta black, wider than fronto-orbital plate; 9-10 pairs of fr, expanding to both sides of anterior ocellus, upper 4 pairs short and small, without ors; fronto-orbital plate, parafacial and gena with grey pruinosity; parafacial about 1.3 times as wide as flagellomere 1; antenna black, flagellomere 1 about 2.5 times as long as wide; arista long plumose, longest hairs about 1.3 times as long as flagellomere 1 wide; facial carina low, vibrissal angle situated in front of frontal angle in profile; anterior margin of gena with 2-3 rows of subvibrissal setae; gena about one third of eyes height, genal and postgenal hairs all black; proboscis short, prementum ruinoso, about 2.5 times as long as wide; palpus black, subequal in length to prementum, labellum large.



Figs. 14-21. *Phaonia subpilipes* Xue and Yu, sp. n. (holotype). 14. Male abdomen (dorsal view). 15. Male sternite 5 (ventral view). 16. Male cerci (posterior view). 17. Male terminalia (profile view). 18. Female, spermatheca. 19. Female, sternites 1-5. 20. Female, ovipositor (dorsal view). 21. Female, ovipositor (ventral view). Scales: 14, 1.0 mm; 15, 0.5 mm; 16, 0.2 mm; 17, 0.2 mm; 18, 1.0 mm; 19, 1.0 mm; 20, 1.0 mm; 21, 1.0 mm.

Thorax: Black in background color, covered with grey pruinosity; scutum with 4 black vittae; scutellum black; 0+1 acr, 2+3 dc, 0+2 ial, pra long and strong, about 2.5 times as long as posterior notopleural seta; notopleuron and katepimeron with hairs, lateral and lower margin of scutellum, basisternum of prosternum and meron bare; 1+2 katepisternal setae; anterior spiracles brown, posterior spiracles dark-brown.

Wings: Slightly hyaline, veins brown, basicosta black; costal spine distinct; radial node entirely bare in dorsal and ventral view, r_{4+5} and m_{1+2} straight; surroundings of r-m and m-m not clouded; calypters white to light-yellow and halteres yellow.

Legs: Entirely black; fore tibia with 2 medium p; mid femur without distinct av, a row of long and large pv on basal half; mid tibia with 3 p, 2 pv; hind femur with complete

Review of the Phaonia consobrina Group from China

av row, becoming long and strong apically, without pv; hind tibia with 6-7 av, complete ad row, distal part 2-3 setae slightly long and strong, with 1 ad in distal quarter, with 1-2 additional short subbasal ad, without apical pv; claws and pulvilli short and small, tarsi longer than tibiae.

Abdomen: Black, oviform in dorsal view, covered with blue-grey pruinosity, without distinct shifting patch; tergite 3-5 with black medial vitta, both sides of vittae with large medial patch, sternite 1 bare.

Female. Body length 6.5-7.5 mm. Frons about one third of head in width, frontal vitta about 4.0 times as wide as fronto-orbital plates, fr 5-6 pairs, ors 2 hypsokinesis, frontal triangle reaching one third lower of frons, parafacial about 1.3 times as wide as flagellomere 1; gena about two fifths of eye in height; katepimeron without hair or without hair on one side; fore tibia with 1 medium p, mid femur without av row, with thin and long pv on basal half, mid tibia with 1 pv; mid tibia with 4-5 av, 3-4 ad. Other main characters same as male.

Etymology. The specific name refers to similar *P. pilipes* Ma and Feng, 1986.

Diagnosis. This new species is similar to *P. pilipes* Ma and Feng, 1986, but it differs from the latter in having 3 posterior *dc* (4 posterior *dc* in *P. pilipes*); hind femur without *pv* (with a row of *pv* in *P. pilipes*); hind tibia with a row of *ad* (2 rows of *ad* in *P. pilipes*), abdomen medial vitta 1.5 times as wide as tibia diameter width (half of tibia diameter width in *P. pilipes*); free part of cerci with 2 pairs of long setae (free part of cerci with a pair of long setae in *P. pilipes*), anterior lateral margin of cerci distinct bend forward in lateral view (anterior lateral margin of cerci slightly straight in lateral view); the inner margin of cerci distinct projecting in lateral view (the inner margin of cerci indistinct projecting in lateral view).

Material examined: *Holotype*. 1♂ (IESNU), China, Mount Duoxiongla (29.4919° N, 94.9283° E; 3600-4200 m), Tibet, 3600-4200 m, 08.08.2003, Wang Mingfu. *Paratypes*. 24♂♂ (IESNU), 14♀♀ (IESNU), same data as holotype.

Species distributions

Phaonia angustinudiseta Xue, 1996

Material examined: *Holotype*. 1♂, China, Hejing, Xinjiang, 2350 m, 22.05.1960, Wang Shuyong. *Paratypes*. 2♂♂, same data as holotype; 1♂, Mt. Tianshan, Xinjiang, 02.05.1960, Wang Shuyong.

Distribution: China: Xinjiang Uygur Autonomous Region (type locality: Hejing).

Phaonia cercoechinata Fang and Fan, 1986

Material examined: *Holotype*. 1♂, China, Mt. E'mei, Sichuan, 22.06.1984, Wu Jianyi, *Paratypes*. 1♂, Daocheng, Sichuan, 3950 m, 06.06.1982; 2♂♂, Xiangcheng, Sichuan, 3900-4000 m, 04.07.1982; 3♂♂, Mt. Moirigkawagarbo, Deqin, Yunnan, 4100 m, 29.07.1982; 1♂, Mt. Zhiben, Yunlong, Yunnan, 3150 m, 23.06.1981.

Distribution: China: Sichuan (type-locality: Mt. E'mei), Yunnan.

***Phaonia cercoechinatoida* Feng and Ma, 2002**

Material examined: Holotype. 1♂, China, Mt. Jiaoding, Hanyuan, Sichuan, 22.06.1987, Fengyan. Paratypes. 9♂♂, 3♀♀, same data as holotype; 3♂♂, Mt. E'mei, Sichuan, 02.06.1984, Fengyan; 4♂♂, Mt. Jiaoding, Sichuan, 26.06.1989, Li guangshi.

Distribution: China: Sichuan (type-locality: Hanyuan, Mt. E'mei), Tibet Autonomous Region.

***Phaonia dupliciseta* Ma and Cui, 1992**

Material examined: Holotype. 1♂, China, Gulian, Mohe, Heilongjiang, 01.06.1979. Cui Changyuan.

Distribution: China: Heilongjiang (type-locality: Gulian).

***Phaonia grunicornis* Xue, 1996**

Material examined: Holotype. 1♂, China, Xinghai, Mt. E'la, Qinghai, 4500 m, 03.06.1964, Wang Shuyong.

Distribution: China: Qinghai (type-locality: Mt. Ela).

***Phaonia hesperia* Feng, 2004**

Material examined: Holotype. 1♂, China, Mt. Jiaoding, Shuanyuan, Sichuan, 3550 m, 11.07.1988, Fengyan. Paratypes. 2♂♂, same data as holotype; 1♂, Mt. Tuanbao, Hanyuan, Sichuan, 2800 m, 10.07.1988, Fengyan.

Distribution: China: Sichuan (type-locality: Mt. Jiaoding).

***Phaonia hirtirostris* (Stein, 1907)**

Material examined: Authors didn't see specimens. (Hennig, 1964)

Distribution: China: Ningxia, Sichuan, Tibet Autonomous Region (type-locality: Amdo); Russia, Uzbekistan, Kyrgyzstan.

***Phaonia holcocerca* Feng and Ma, 2000**

Material examined: Holotype. 1♂, China, Mt. Erlang, Sichuan, 2790 m, 01.07.1988, Feng Lifu.

Distribution: China: Sichuan (type-locality: Mt. Erlang), Yunnan.

***Phaonia nigrinudiseta* Xue and Zhang, 1996**

Material examined: Holotype. 1♂, China, Mt. Geladandong, Qinghai, 5080, 13.06. 1990, Zhang Xuezhong.

Distribution: China: Qinghai (type-locality: Mt. Geladandong).

***Phaonia nudiseta* (Stein, 1907)**

Material examined: Authors didn't see specimens. (Hennig, 1963)

Distribution: China: Tibet Autonomous Region (type-locality: Amdo).

Review of the Phaonia consobrina Group from China

***Phaonia paucispina* Feng and Cui, 1988**

Material examined: Holotype. 1♂, China, Huzhong, Heilongjiang, 12.07.1978, Cui Changyuan.

Distribution: China: Heilongjiang (type-locality: Huzhong).

***Phaonia pilipes* Ma and Feng, 1986**

Material examined: Holotype. 1♂, China, Mt. Erlang, Sichuan, 3100 m, 11.07. 1983, Fengyan.

Distribution: China: Sichuan (type-locality: Mt. Erlang).

***Phaonia spuripilipes* Fang and Fan, 1992**

Material examined: Holotype. 1♂, China, Mt. Moirigkawagarbo, Deqin, Yunnan, 3350 m, 22.07.1982, Zhang Xuezhong.

Distribution: China: Yunnan (type-locality: Mt. Moirigkawagarbo).

***Phaonia subnudiseta* Xue, 1996**

Material examined: Holotype. 1♂, China, Batang, Yushu, Qinghai, 4600 m, 14.06.1964, Wang Shuyong.

Distribution: China: Qinghai (type-locality: Yushu, Batang).

***Phaonia consobrina* Zetterstedt, 1838**

Material examined: Authors didn't see specimens. (Zetterstedt, 1838)

Distribution: Sweden (type-locality: Västerbotten, Lapland), Denmark, Russia.

***Phaonia gergetica* Zinovjev, 1994**

Material examined: Authors didn't see specimens. (Zinovjev, 1994)

Distribution: Russia (type-locality: Caucasus), Georgia.

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