# Studies on Flies in Korea 10. On the hitherto unreported species in Korea\*

## Soung-Ho Park

(Dept. of Science Education, Gyeoungsang University)

韓國產 파리의 研究 10. 韓國 未記錄種에 관하여

朴 星 湖 (慶尚大學 科學教育科) (Received November 15, 1973)

## 摘 要

1973年 3月부터 10月까지 慶南과 濟州道 파리類 調査로 우리 나라 未記錄 11種이 發見되었다.

아래 種들이 追加되어 우리 나라 쉬파리科(Sarcophagidae) 파리는 38種, 검정파리科(Calliphoridae)는 15種, 집파리科(Muscidae)는 31種이 된다.

11種中 검정파리科의 Isomyia는 우리 나라에서는 처음 記錄되는 屬이다.

#### Sarcophagidae

Sarcophaginae

- 1. Takanoa hakusana (Hori, 1954)
- 2. Phallosphaera metzgeri Kano et Shinonaga, 1964

## Calliphoridae

Rhininae

3. Isomyia prasina (Bigot, 1886)

### Muscidae

Phaoniinae

Phaoniini

4. Hydrotaea calcarata Löw, 1858

<sup>\*</sup> 本 調查研究는 文教部 研究助成費呈 行效음.

- 5. H. cyrtoneurina (Zetterstedt, 1845)
- 6. Phaonia dorsolineata Shinonaga et Kano, 1971
- 7. P. kowarzi (Schnabl, 1886)

24

- 8. P. punctipennis Shinonaga et Kano, 1971
- 9. P. aureola Shinonaga et Kano, 1971
- 10. P. angustifrons Shinonaga et Kano, 1971
- 11. Ophyra hirtitibia Stein, 1920

#### DESCRIPTION

Takanoa hakusana (Hori)

Sarcophaga hakusana Hori, 1954, Sci. Rep. Kanazawa Univ.,

2, 2; 49, Fig. 9.

Takanoa hakusana (Hori), 1967, Fauna Japonica, Sarcophagidae, Biogeo. Soc. Jap., 31, fig. 17.

Male body length: 12-20mm

Head: Frons about 3/4 width of one eye; frontal vitta black; parafrontals and parafacials with golden pollen; frontal bristles about 13 pairs; antennae dark brown, length of 3rd segment three times that of 2nd; genae black, golden pollen'

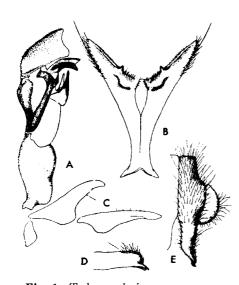


Fig. 1. Takanoa hakusana.

A: Lateral view of male penis.

B: 5th sternite of male.

C: Lateral view of male parameres.

D: Lateral view of male forcep.

E: Forceps.

with numerous black hairs; 1st row of postocular setae regular but other rows irregular; metacephalon and posterior part of gena with numerous yellowish white hairs; palpi black.

Thorax: Scutum with silvery to golden pollen, with three black longitudinal stripes; acrostichal bristles 1+1; dorsocentral bristles 5+4; intra-alar bristles 1+2 or 3; humeral bristles 4 or 5; post-humeral bristles two; notopleural bristles 4; presutural bristle one; supra-alar bristles 4; post-alar bristles 2; mesothoracic spiracle dark brown.

Wings: Hyaline; R1 bare; R4+5 with about 9 short setae located dorsally more than half way from basal node to r-m; about 3 short setae on ventral surface of basal node of R4+5; basicostal scale light brown; squame vellowish white; halter brown.

Legs: Black; fore femur with a pair of

rows of bristles on posterodorsal surface, a row of long bristles on posteroventral surface; mid femur with 3 or 4 bristles on middle portion of anterolateral and anteroventral surfaces, a row of short bristles both on distal 1/3 of ventral surface, numerous long hairs on ventral surface; hind femur with a pair of rows of bristles on anterodorsal surface, a row of bristles and long hairs on anteroventral and posteroventral surface; fore tibia with 3 or 4 bristles on basal part of anterodorsal surface, one bristle on posterolateral surface at 1/3 from distal end; mid tibia with a row of short bristles on the posterodorsal surface, one long bristle on anterodorsal surface at one-third distance from distal end; hind tibia with a row of short and long bristles on anterodorsal surface. 3 bristles on posterodorsal surface, numerous long hairs on anterior and posterior margins of ventral surface.

Abdomen: Black and silvery checkered pattern; median marginal bristles on 3rd tergite present; marginal bristles on 4th and 5th tergites several pairs; 1st genital tergite black with grayish pollen; 2nd genital tergite shiny black; 1st and 2nd genital tergites with numerous hairs but without marginal bristles; 5th sternite, forceps and genitalia as shown in Fig. 1.

Locality: 22含含, Jeju-Do (Gwanumsa), 17 June 1973, collected by S.H. Park and J.S. Park.

Distribution: Japan (Honshu, Kyushu).

Phallosphaera metzgeri Kano et Shinonaga

Phallosphaera metzgeri Kano et Shinonaga, 1964, Jap. J. Sanit. Zool., 15, 4: 213—214, Fig. 1.

Male body length: 14mm

Head: Frontal vitta black; from about 1/2 width of one eye; parafrontals and parafacials with golden pollen; frontal bristles about 13 pairs; antennae dark brown, with length of 3rd segment 2.5 times that of 2nd segment; genae black, with silvery pollinosity, with numerous black hairs; 1st row of postocular setae regular but other row of irregular; metacephalon with numerous yellowish white hairs.

Thorax: Scutum with silvery to golden prinescence, with 3 black longitudinal stripes; acrostichal bristles 5+1 (5 bristles weak); dorsocentral bristles 4 or 5+4; intra-alar bristles 1+3; humeral bristles 3 or 4; post humeral bristles 2 or 3; prestural bristle one; notopleural bristles 4; supra-alar bristles 3; post-alar bristles 2; apicoscutellar and discoscutellar bristles one pair each; lateroscutellar bristles 2 pairs; mesothoracic spiracle dark brown.

Wings: Hyaline; R1 bare; R4+5 with a row of about 8 setae located dorsally extending more than half way from basal node to r-m; 4 or 5 setae on ventral surface of basal node of R4+5; halter brown; spuamae yellowish white.

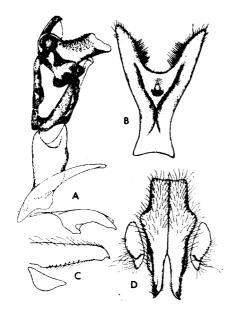


Fig. 2. Phallosphaera metzgeri. A: Lateral view of penis and parameres. B: 5th sternite of male.

C: Lateral view of forceps.

D: Forceps.

Legs: Black; fore femur with a pair of rows of bristles on posterodorsal surface, a row of long bristles along posteroventral surface; mid femur with long hairs on posteroventral surface, several short bristles on anteroventral surface and middle portion of lateral surface; a pair of rows of short bristles at distal 1/3 of ventral surface: hind femur with a pair of rows of bristles on anterodorsal surface, a row of bristles and long hairs on ventral surface; fore tibia with 3 short bristles on basal part of dorsal surface and one bristle at 1/3 distance from distal end on posteroventral surface; mid tibia with one bristle on anterolateral surface about middle part, 2 bristles and a row of short bristles on posterodorsal surface; hind tibia with a pair of rows of short and long bristles on dorsal surface, one bristle and long hairs of ventral surface.

Abdomen: Black and silvery checkered pattern; median marginal bristles on 3rd tergite absent; some pairs of marginal bristles on 4th and 5th tergites; 1st and 2nd genital tergites without marginal bristles; 1st genital tergite black with grayish pollen; 2nd genital tergite shiny black; 5th sternite, forceps and genitalia as shown in Fig. 2.

Locality: 1含, Jeju-Do (Gwanumsa), 17 June 1973, collected by S.H. Park. Distribution: Japan (Hokkaido, Honshu).

Isomyia prasina (Bigot, 1886)

Strongyloneura prasina Bigot, 1886, Bull. Soc. Ent. France, 4:14.

Isomyia prasina, 1956, Zumpt, Flieg. palae. Reg. 641:110.

Male body length: about 9mm

Head: Frons narrow; frontal vitta dark brown; parafrontals and parafacials covered with golden pollen; antennae orange, length of 3rd segment about two times that of 2nd; arista dark brown and feathered; frontal bristles about 8 pairs; and metacephalon covered with golden pollen and numerous yellowish white hairs; palpi yellowish orange.

Thorax: Scutum and scutered with yellow and green; acrostichal bristles 3+5; dorsocentral bristles 3+4; intra-alar bristles 1+4; humeral bristles 3; notopleural bristles 2; supra-alar bristles 3; post-alar bristles 2; discoscutellar and apicoscutellar bristles each one; lateroscutellar bristles 2; mesothoracic and metathoracic spiracles dark brown.

Wings: Hyaline; veins dark brown; R1 bare; R4+5 with 4 setae on dorsal surface and 2 setae on ventral surface; basicosta brown; epaulet black; squamae yellow.

Legs: Black; femora covered with yellowish green pollen and tibiae orange, tarsi brown; fore femur with a pair of rows of bristles on posterodorsal surface, a row of bristles on posteroventral surface; fore tibia orange with a row of short bristles on anterodorsal surface, one long bristle on posterolateral surface; mid femur with a row of weak bristles on basal half of ventral surface, 3 bristles on posterodorsal surface, one bristle on anterolateral surface; mid tibia with one bristle on distal 1/3 of anterodorsal surface, 3 bristles on posterolateral surface; hind femur with a pair of rows of bristles on anterodorsal surface, a pair of rows of bristles on ventral surface; hind tibia with a row of bristles posterodorsal and anterodorsal surfaces.

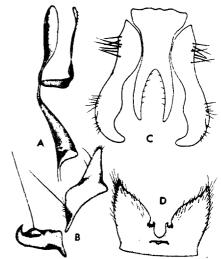


Fig. 3. Isomyia prasina.

A: Lateral view of penis.

B: Lateral view of parameres.

C: Forceps.

D: 5th sternites of male.

Abdomen: Metallic green to dark green with grayish pollen; dorsal surface of 2nd to 5th tergites cupreous; lateral and ventral surfaces of tergites green with silvery pollen; 2nd and 5th tergites a little longer than other tergites; 1st and 2nd genital tergites metallic green with numerous black hairs; 5th sternite, forceps and genitalia as shown in Fig. 4.

Locality: 12含含, 5年年, Mt. Jiri, Mt. Naejang, Sangge, (Mt. Jiri) collected by S.H. Park and J.S. Park.

Distribution: Japan, Formosa, Philippines.

Hydrotaea calcarata Löw, 1858

Hydrotaea calcarata Löw, 1858, Wien. Ent. Monatschr. 2:112.

Male body length: 5.5mm

Head: Eyes bare, closely approximated; parafrontals narrow, black with several pairs of frontal bristles on lower part, upper of parafrontals without bristles; parafacials dark brown with grayish pollen and bare; antennae black, 3rd segment

with grayish pollen, 3rd segment about twice that of 2nd segment; arista dark brown and short ciliated; gena black with grayish pollen and numerous blackish hairs; palpi black.

Thorax: Scutum black with grayish pollen; acrostichal bristles 0+1; dorsocentral bristles 2+4; intra-alar bristles 0+2; post-humeral bristle one; humeral bristles 2; notopleural bristles 2; supra-alar bristle one; post-alar bristles 2; apicoscutellar bristle one; discoscutellar bristles 2 weak short bristles; lateroscutellar bristles absent; mesothoracic and metathoracic spiracles dark brown.

Wings: Hyaline, veins yellowish brown; R1 and R4+5 bare; M1+2 and m-m straight; basicosta and subcostal sclerite dark brown; squamae yellow, lower squ-

Fig. 4. Hydrotaea calcarata. A: Lateral view of male hind tibia. B and C: Lateral view of male fore femur.

D: Forceps.

E: 5th sternite of male.

F: Lateral view of penis and parameres.

ame rounded.

Legs: Black with grayish pollen; fore femur with a strong spine (Fig. 4) on distal part of ventral surface, a pair of rows of bristles on posterodorsal surface, a row of several strong bristles (one of bristle long) on basal part of ventral surface; mid femur with a row of bristles on basal half of anterolateral surface, about 5 strong bristles on basal part of posteroventral surface, several bristles on distal part of anterolateral and posterolateral surface; mid tibia with 2 bristles on middle part of posterodorsal surface; hind femur with a row of bristles on anterodorsal surface, a row of about 5 bristles on distal part of anteroventral surface, one straight bristle on distal 1/3 of posteroventral surface; hind tibia with a row of short bristles on anterodorsal surface, one coalescent bristle hooked at apex on ventral surface (Fig. 4. A.)

Abdomen: Black; covered with grayish pollen entirely; a median dark stripe distinct on 3rd tergite; faint on 4th and 5th tergites; 5th sternite, forceps and genitalia as shown in Fig. 4.

Locality: 15, Jeju-Do (Soungpanack), 19 June 1973, collected by S.H. Park

Distribution: Japan, Europe, N. America.

Hydrotaea cyrtoneurina (Zetterstedt, 1845)

Aricia cyrtoneurina Zett., 1845, Dipt. Skand., IV.

Hydrotaea cyrtoneurina (Zett.), 1954, Ringdahl, Svensk Insektfn., XI, 1, 1, 60.

Male body length: 7mm

Head: Eyes covered with microscopic hairs; frons about 1/3 width of eye; frontal vitta black; parafrontals narrow, black and bare; parafrontals and parafacials with grayish pollen; frontal bristles developed; 2 long bristles on 2nd segment of antennae, antennae black, 3rd segment about two times length of 2nd segment; arista dark brown and pubescent; genae black with grayish pollen and black hairs; palpi black.

Thorax: Black, covered with grayish pollen; acrostichal bristles  $3\pm4$ ; dorsocentral bristles  $2\pm4$ ; intra-alar bristles  $0\pm2$ ; humeral bristles 3; notopleural bristles 2; supra-alar bristle one; post-humeral bristle one; post-alar bristles 2; apicoscutellar bristle one; discoscutellar bristle one; lateroscutellar bristles 2; mesothoracic and metathoracic spiracles dark brown.

Wings: Hyaline; veins dark brown; R1 and R4+5 bare; m-m bending toward base; squame yellowish brown, lower squame with yellowish marginal cilia.

Legs: Black; fore femur with a pair of bristles on posterodorsal surface, a row of bristles on posteroventral surface, a spine near distal part of ventrals urrface; fore tibia with only preapical bristles; mid femur with a row of bristles (about 6 or 7) on basal

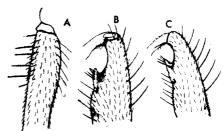


Fig. 5. Hydrotaea cyrtoneurina. A: Lateral view of male mid femur. B and C: Lateral view of male fore femur.

half of anterolateral surface, a row of bristles (tip of bristles dull) on basal half of posteroventral surface, a row of bristles on basal half of anteroventral surface; mid tibia with 3 bristles on posterolateral surface; hind femur with a row of bristles on anterodorsal surface, a row of bristles on distal half of anterolateral surface, several bristles on distal part of posteroventral surface; hind tibia with a row of short bristles on anterodorsal, anteroventral and posteroventral surfaces, one bristle on distal 1/3 of posterodorsal surface.

Abdomeon: Black with grayish pollen; marginal bristles developed on 2nd to 5th tergites; long bristles developed on dorsal surface of 2nd tergite; mid femur an shown in Fig. 5.

Locality: 13, Mt. Halla, 18 June 1973, collected by J.S. Park.

Distribution: Europe, Chile, S. India.

Phaonia dorsolineata Shinonaga et Kano, 1971

Phaonia dorsolineata Shinonaga et Kano, 1971, Fauna Japonica Muscidae, I, Academic Press of Japan, 171—172, Fig. 56.

Head: Eyes hairly: frons narrow; frontal vitta dark brown; parafrontals and parafacials reddish brown with silvery pollinosity; intermedian triangle brown, gena brown with numerous hairs and silvery pollen; antennae dark brown, length of 3rd segment 3 times that of 2nd; arista feathered and dark; frontal bristles 4-5 pairs; epistoma not protruding than vibrissal angle in lateral view; palpi black.

Thorax: Scutum black with grayish pollen and 4 indistinct longitudinal stripes on presutural area; scutellum usually orange; lateral view of scutellum without hairs; acrostichal bristles 1+1; dorsocentral bristles 2+3; intra-alar bristles 0+2; humeral bristles 2; notopleural bristles 2; supra-alar bristles 2; posthumeral bristles 2; mesothoracic spiracles brown, metathoracic spiracle dark brown.

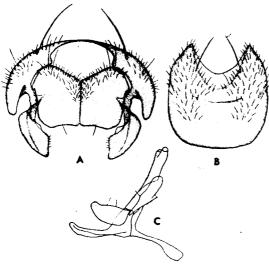


Fig. 6. Phaonia dorsolineata.

A: Forceps.

B: Male 5th sternite.

C: Lateral view of penis and parameres.

Wings: Hyaline; veins yellowish brown; R1 and R4+5 bare; squamae yellowish orange; lower squame tongue shaped.

Legs: Coxae and dorsal part of fore femur dark brown; mid, hind femur and tibiae yellowish orange but tarsi black; fore femur a pair of rows of bristles on posterodorsal surface, a row of bristles on posteroventral surface; fore tibia without bristles; mid femur with a row of short bristles anterolateral surface, a row of bristles on posteroventral surface; mid tibia with 3 bristles on posterolateral surface; hind femur with a row of bristles on anterodo-

rsal and anteroventral surface; hind femur with a row of bristles on anterodorsal and anteroventral surfaces; hind tibia with a row of bristles on anteroventral surface, 2 bristles on anteroventral surface, one bristle on distal one-third on posterodorsal surface.

Abdomen: Black with grayish pollen on parts of each segment; 4 and 5 tergites on marginal bristles developed; 5th sternite, forceps and genitalia as shown in Fig. 6. Locality: 13, Jeju-Do (Soungpanack), 19 June 1973, collected by S.H. Park.

Distribution: Japan.

Phaonia kowarzi (Schnabl, 1886)

Aricia kowarzi Schnabl, 1886, Horac Soc. Ent. Ross., 20:406. Phaonia kowarzi (Schnabl), 1907, Stein, Kat. Palae. Dipt., 3:619

Male body length: 5.5mm

Head: Eyes covered with microscopic hairs; frons narrow; parafrontals and parafacials brown with silvery golden pollen; a pair of long bristles among frontal bristles; 3rd segment of antennae yellow, 2nd segment brown, length of 3rd segment 3 times that of 2nd; arista brown basally, feathered; gena black with numerous black hairs; palpi orange.

Thorax: Scutum black with grayish pollen, 2 dark longitudinal stripes on prestural area; humeri and apical part of scutellum yellowish brown; acrostichal bristles 0+1; dorsocentral bristles 2+3; intra-alar bristles 0+2; humeral bristles 2; notopleural bristles 2; supra alar bristles 2; posthumeral bristle one; mesothoracic and metathoracic spiracles yellowish brown.

Wings: Hyaline; R1 and R4÷5 bare; m-m not bending; costal spines extending on section IV; basicosta, epaulet and subcostal sclerite yellow; squamae yellow, lower squame tongue shaped.

Legs: Coxae, femora and tibiae yellow; tarsi black; fore femur with a pair of rows of bristles on posterodorsal surface, a row of bristles on posteroventral surface; fore

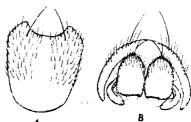


Fig. 7. Phaonia kowarzi. A: Male's 5th sternite. B: Forceps.

tibia without posterior bristles; mid femur with a row of short bristles on basal half of anterolateral surface; mid tibia with 3 bristles on posterolateral surface; hind with a row of bristles on anterodorsal surface, a row of bristles on distal half of anteroventral surface; hind tibia with 2 bristles on anterodorsal surface, 4 bristles on anteroventral surface, one bristle posterodorsal surface.

Abdomen: yellow, 5th tergite dark brown, 4th and 5th tergites with marginal bristles; 5th sternite and forceps as shown in Fig. 7.

Locality: 2含含, Mt. Jiri, 3 June 1973, collected by J.S. Park.

Distribution: Japan, Europe.

Phaonia punctipennis Shinonaga et Kano, 1971 Phaonia punctipennis Shinonaga et Kano, 1971, Fauna Japonica Muscidae I, Academic Press of Japan, 185—186, Fig. 64.

Male body length: 9mm

Head: Eyes densely covered with comparatively long hairs; frons narrow; parafrontals and parafacials black; frontal vitta black; antennae dark brown, length

of 3rd segment 2 times that of 2nd; arista dark brown and feathered: frontal bristles about 7 pairs; gena black with numerous black hairs; palpi black.

Thorax: Scutum black with grayish pollen; 4 black longitudinal stripes; acrostichal bristles 2+3; dorsocentral bristles 3+4; intra-alar bristles 0+2; humeral bristles 4 (2 bristles weak); notopleural bristles 2; supra-alar bristles 2; posthumeral bristle one; notopleuron hairly; mesothoacic and metathoracic spiracles dark brown.

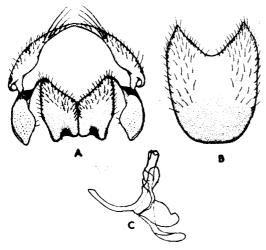


Fig. 8. Phaonia punctipennis.

A: Forceps.

B: Male 5th strnite.

C: Lateral view of penis and paramres.

Wings: Hvaline: veins dark brown: m-m and r-m clouded; m-m bending toward base; basicosta and epaulet dark brown; subcostal sclerite brown; squamae brown, lower squame tongue shaped.

Legs: Black; fore femur with a pair of rows of bristles on posterodorsal surface, a row of bristles on posteroventral surface, irregular long bristles on lateral view; fore tibia without posterior bristles; mid femur with a row of bristles on ventral surface; mid tibia with 3 bristles on posterolateral surface; hind femur with a row of bristles on anteroventral and anterodorsal surfaces; hind tibia 2 bristles on anterodorsal surface, 3

bristles on anteroventral surface, one bristle on posterodorsal surface. Abdomen: Black and gray checkered pattern; marginal bristles 4th and 5th

tergites; sternites black; 5th sternite, forceps and genitalia as shown in Fig. 8. Locality: 13, Jeju-Do (Soungpanack), 17 June 1973, collected by J.S. Park.

Distribution: Japan.

Phaonia aureola Shinonaga et Kano, 1971

Phaonia aureola Shinonaga et Kano, 1971, Fauna Japonica Muscidae I, Academic Press of Japan, 202-204, Fig. 47.

Male body length: 8-9.5mm

Head: Eyes covered microscopic hairs; frons narrow; frontal vitta dark brown, frontal bristles about 5 pairs; upper two-thirds of frontal bristles absent; parafrontals dark brown with golden pollen; intermedian triangle dark brown with golden pollen bristles and black hairs absent; gena dark brown with silvery pollen and numerous black hairs; 2nd antennal segment and arista reddish brown but 3rd segment dark brown, 3rd segment about 1.5 times length of 2nd; palpi

dark brown.

Thorax: Scutum black, densely covered with golden pollen and with 4 dark longitudinal stripes; acrostichal bristles 0 or 2 +1; dorsocentral bristles 2+4; intra-alar bristles 0+2; humeral bristles 3; posthumeral bristle one; notopleural bristles 2; supra-alar bristles 2; mesothoracic and metathoracic spiracles yellowish white.

Wings: Hyaline, slightly infuscated; R1 and R4+5 bare; basicosta, epaulet and subcostal sclerite orange; lower squame tongue shaped, squamae yellow; halter yellow.

Legs: Coxae, femur and tibiae orange; tarsi dark brown; fore femur with a pair of rows of bristles on posterodorsal surface, a row of bristles on posteroventral surface; fore tibia without posterior bristles; mid femur with 2 or 3 strong bristles on basal half of posteroventral surface, 3 bristles near distal part; mid tibia with 2-4 bristles on

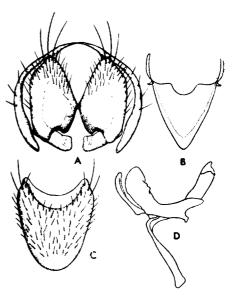


Fig. 9. Phaonia aureola.

A: Forceps.

B: Vinculm.

parameres.

C: Male's 5th sternite.

D: Lateral view of penis and

lateral surface; hind femur with a row of bristles on anterodorsal surface, a row of bristles on 1/3 distal part of anteroventral and posteroventral surface; hind tibia with 1-2 bristles on middle part of anterodorsal surface, a row of short bristles on anterolateral surface, 3 or 4 bristles on anteroventral surface, one bristle on distal one-third of posterodorsal surface.

Abdomen: Densely covered with golden pollen entirely; median dark stripes present 2 or 3 tergites; 4th and 5th tergites with marginal bristles; 5th sternite, forceps and genitalia as shown in Fig. 9.

Locality: 59含含, 80年年, Mt. Halla, 2含含, 12年年, Songpanack, 28—30 August 1973, collected by S.H. Park.

8중중, 11구구, Gwanumsa. 2중중, 2우구, Mt. Halla, 8중중, 2우구, Soungpanack, 17—20 June, 1973, collected by S.H. Park.

14 $\oplus$   $\oplus$ , Gwanumsa, 4 $\ominus$   $\oplus$ , Mt. Halla, 8 $\ominus$   $\oplus$ , 2 $\ominus$   $\ominus$ , Soungpanack, 17—21 June 1973, collected by J.S. Park.

Distribution: Japan.

Phaonia angustifrons Shinonaga et Kano, 1971

Phaonia angustifrons Shinonaga et Kano, 1971, Fauna Japonica Muscidae I,

Academic Press of Japan, 224-225, text-fig. 129.

Male body length: 6mm

Head: Eyes covered with microscopic hairs; from narrow; parafrontals dark brown with grayish pollen frontal bristles 3 or 4; antennae dark brown, length of 3rd segment 2.5 times that of 2nd; arista feathered and dark brown; gena dark brown, intermedian triangle brown; palpi dark brown.

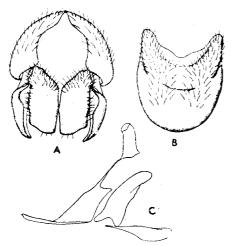


Fig. 10. Phaonia angustifrons.

Λ: Forceps.

B: Male 5th sternite.

C: Penis and parameres.

Thorax: Scutum black with grayish pollen and 4 longitudinal stripes apical part of scutellum orange; acrostichal bristles 1+2; dorsocentral bristles 2+3; intra-alar bristles 0+2; humeral bristles 2; post-humeral bristles one; notopleural bristles 2; supra alar bristles 2; apicoscutellar bristle one; discoscutellar bristle one; lateroscutellar bristles 2; mesothoracic and metathoracic spiracles yellowish brown.

Wings: Hyaline; veins brown; R1 and R4+5 bare; m-m bending toward basecostal spines extending on basal one-third of section V; squamae yellow, lower squame tongue shaped.

Legs: Coxae and femora (distal 1/3 yello-

wish brown) dark brown, tarsi black, tibiae yellowish brown; fore femur with a pair of rows of bristles on posteroventral surface; fore tibia without posterior bristles; mid femur with a row of short bristles on anterolateral surface, a row of long weak bristles on posteroventral surface; mid tibia with 3 bristles on posterolateral surface; hind femur with a row of bristles on anteroventral and anterodorsal surface; hind tibia with 3 bristles on anteroventral surface, 2 bristles on anterodorsal surface and one bristle at distal one-fifth of posterodorsal surface.

Abdomed: Black, covered with grayish pollen; 3rd, 4th and 5th tergites with black stripes on middle part; 4th and 5th tergites with marginal bristles developed; 5th sternite, forceps and genitalia as shown in Fig. 10.

Locality: 13, Mt. Halla, 30 August 1973, 13, Mt. Naejang, 25 May 1972, collected by S.H. Park.

Distribution: Japan.

Ophyra hirtitibia Stein, 1920

Ophyra hirtitibia Stein, 1920, Tijdschr. Ent. 62 (suppl.); 53.

Male body length: 5mm

Head: Eyes bare; frons narrow; frontal vitta linear, ventral part wide; frontal lunula yellowish brown; parafacials dark brown with grayish pollen; antennae black with brownish pollen, length of 3rd segment 2 times that of 2nd; gena shiny black with numerous black hairs; palpi black.

Thorax: Metallic black; acrostichal bristles 1+2; dorsocentral bristles 2+4; intra-alar bristles 0+2; humeral bristles 2; notopleural bristles 2; supra-alar bristle one; post humeral bristle one; apicoscutellar bristle one; discoscutellar bristles 2; mesothoracic spiracle black.

Wings: Hyaline; veins yellowish brown; m-m bending toward middle part; R1 and R4 +5 bare; basicosta and epaulet yellowish brown; squamae yellow, lower squame tongue shaped.

Legs: Black; fore femur with a pair of rows of bristles on posterodorsal surface, a row of bristles on posteroventral surface, a row of bristles on distal half of posterolateral surface; fore tibia without posterior bristles; mid femur with a row of short bristles on basal half of anterolateral surface; mid tibia with 2 bristles on posterolateral surface; hind femur with a row of bristles on anterodorsal surface, 3 long weak bristles on basal half of anteroventral surface, a row of bristles on distal one-fourth of anteroventral surface; hind tibia with a pair of rows of short and weak bristles on anterodorsal surface, a row

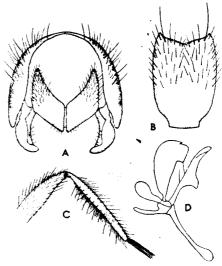


Fig. 11. Ophyra hirtitibia.

A: Forceps

B: Male 5th sternite

C: Lateral view of male tibia.

D: Penis and parameres.

weak bristles on anterodorsal surface, a row of long and weak bristles on anteroventral surface, one bristle on middle part of posterodorsal surface, numerous irregular hairs on anterodorsal, anterolateral and anteroventral surfaces (Fig. 11, C).

Abdomen: Metallc black, 2nd and 3rd tergites covered with grayish pollen, 4th and 5th tergites with developed marginal bristles; 5th sternite, forceps and genitalia as shown in Fig. 11.

Locality: 433, Mt. Naejang, 21 June 1972, collected by S.H. Park.

Distribution: China, Indonesia.

#### Acknowledgment

The author wishes to express his sincere appreciation to Professor Dr. Rokuro Kano and Dr. Satoshi Shinonaga, Department of Medical Zoology, Tokyo Medical

and Dental University, Tokyo, Japan for their kind help in the identification of the specimens.

#### REFERENCES

- D'Assia Fonsca, E.C.M., 1968. Handbook for the identification of British insects. Royal Ent. Soc. London 10 (4b): 16-35.
- Emden, F.I. van, 1965. The fauna of India and adjacent countries. *Diptera* (Muscidae). 7(1): 298—328.
- Fan, Y., 1965. Key to common synanthropic flies in China (in Chinese).
- Hennig, W., 1964. In Lindner, Die Fliegen der Palaearktishen Region 63b Muscidae. 716-718.
- Hori, K., 1952. On some flies of medical importance obtained from Korea and adjacent districts. J. Jap. Appl. Zool. (in Japanese) 7(1/2):77-82.
- \_\_\_\_\_, 1954. Morphological studies on Muscoid flies of medical importance in Japan VII. Special Number Jap. J. Sanit. Zool. 2(2):7-8.
- Kano, R. and S. Shinonaga, 1964. Notes on flies of medical importance in Japan. Part XXII. Jap. J. Sanit. Zool. 15(4): 213-219.
- \_\_\_\_, 1967. Fauna Japonica, Sacophagidae (Diptera). Biogeo. Soc. Jap. 31, 32, 94 and 95.
- \_\_\_\_\_, 1968. *Ibid*. Calliphoridae. *Ibid*. 124—125.
- Shinonaga, S. and R. Kano, 1971. *Ibid*. Muscidae I. Academic Press of Japan. 128, 142, 165-231.