

FAUNA BURUANA.

DIPTERA, Subordo Nematocera.

By

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Few or no Nematocerous Diptera (other than Anopheline mosquitoes) have been recorded from the island of Buru, and the writer therefore gladly accepted the offer of Prof. J. C. H. DE MEIJERE to study the collection recently made there by Mr. L. J. TOXOPEUS. The collection is a small one, comprising only 36 determinable species, but of these 13 appear to be new to science. Although the general facies of the fauna is markedly Australasian, it is of interest to note the occurrence of quite a number of species which occur also in the Malay Peninsula or even in India; such are *Anisopus maculipennis*, *Aedes annandalei*, *Forcipomyia hirtipes*, *Culicoides pungens*, *Libnotes vittata*, *L. oralis*, *Limnobia longiradius* and *Nesopeza gracilis*. The new species of *Monoclona* is the first tropical representative of this genus to be discovered.

The types of the new species are preserved in the Amsterdam Museum, duplicates, when available, in the British Museum.

For Mr. TOXOPEUS' account of his expedition, and for details concerning the localities, vide Maatschappij ter bevordering van het Natuurkundig Onderzoek der Nederlandsche Kolonien, Bull. No. 80.

MYCETOPHILIDAE.

The collection contains a few female specimens of *Sciara*, representing several species but showing no very distinctive characters; also the following two interesting fungus-gnats:

***Monoclona molluccana* sp. n.**

♀. Head ochreous, dark brown round the ocelli. Lateral ocelli larger than usual, the median one very small. Antennae blackish, the first three segments ochreous. Palpi ochreous. Thorax uniformly ochreous. Abdomen ochreous, except tergites 2—5, which are shining black, with the front and

hind margins narrowly ochreous. Legs ochreous, only the tarsi and tibial spurs slightly darkened. Wings with the apical third slightly but distinctly darkened, also the small cell. Venation and trichiation as in the European species. Halteres with light brownish stem and black knob.

Length of body, 3 mm.; wing, 3 mm.

Station 9, 19. V. 1921. 1 ♀.

Allactoneura obscurata (WALKER).

Station 9, 22. V. 1921, 1 ♀.

Differs from the allied *A. cincta* DE MEIJ. in having all the femora completely black, and the lower margin as well as the apex of the wing darkened.

BIBIONIDAE.

Plecia buruensis sp. n.

♂. Head black. Ocellar tubercle very large. Antennae with 2 + 7 segments, black, second segment ochreous; segments 4–8 rather broader than long, 9 longer than broad and larger than 8. Palpi black. Thorax: Mesonotum mainly dull brownish red, but the margins and pair of humeral spots blackish, also the scutellum and a small area in front of it. Postnotum reddish-brown. Pleurae mainly black, but mesosternum red. Abdomen black, hypopygium moderately large, structure as figured. Legs black, moderately long and slender, pubescence rather short. Front tibiae slightly flattened. First segment of hind tarsus slender, a little over a third as long as the tibiae. Wings blackish, venation normal; R. 4. short, almost straight, ending very little beyond tip of R. 1. Halteres black, base of stem reddish.

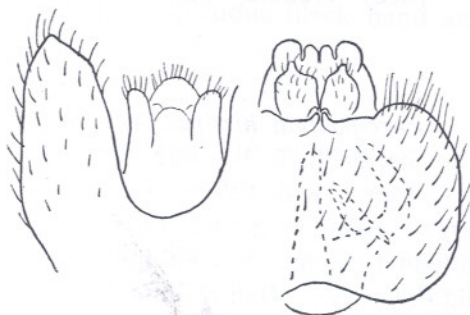


Fig. 1. *Plecia buruensis* n. sp. —
♂ hypopygium from above and below.

Length of body, 7 mm.; wing, 8 mm.

Station 12, 1000 m., 4. II. 1922, 1 ♂.

A ♀ from station 17, 21. X. 1921, may perhaps belong to this species; in it the reddish colour of the thorax is almost obliterated.

Plecia aruensis. ED.

Station 9, 22. V. 1921, 3 ♂ 2 ♀.

Bibio obediens O. S.

Station 13, 30. VIII. 21, 3 ♂ 4 ♀. Station 4, 29. I. 22, 1 ♀. Station 8, Feb. 1922, 1 ♀. Mnges Waen, 31. 1. 22, 1 ♂ 1 ♀ in cop.

The females conform well to OSTEN SACKEN's description; they have the basal section of Rs nearly twice as long as r-m, a point not mentioned by the describer; antennal flagellum with eight segments, but the last three almost fused. The males, as is frequently the case in this genus, are coloured very differently from the females. The whole body is black, except that the four anterior femora and the halteres are brownish. Wings whitish, stigma scarcely darkened; basal section of Rs hardly longer than r-m. Pubescence of thorax and abdomen short, brown. Hind tarsi with rather long pubescence beneath, the first segment slender and quite half as long as the short tibia.

ANISOPODIDAE.

Anisopus maculipennis v. d. WULP.

Station 9, 29. VI. 1921, 1 ♀.

CULICIDAE.

(See: Treubia, VII, 1, p. 40.—Boeroe-Expeditie, II Insecta, 2, p. 82.)

CHIRONOMIDAE.

Forcipomyia hirtipes (DE MEIJ.) var. ?.

Station 6. 2. II. 1922, 1 ♀ taken upon a large Phasmid.

Agrees with Ceylon specimens in the British Museum, except that the large second segment of the palpi seems a trifle broader. The last five antennal segments combined are of almost the same length as the first eight, or very slightly longer.

Culicoides pungens DE MEIJ.

Station 1, 14. XII. 1921, 3 ♀, bloodsucking (?).

This species, one of the smallest of the genus, is widely distributed, having been described from Sumatra, while the British Museum possesses a specimen, apparently of the same species, from Port Darwin, Australia.

TIPULIDAE.

Libnotes vittata var. *luteiventris* var. n.

♂. Differs from typical *L. vittata* EDW. (from Sumatra) as follows:—

Praescutum with four dark marks posteriorly instead of only two, the middle pair not quite reaching the suture. Postnotum with the lateral margins rather broadly dark brown, apart from the black spot at the basal corners.

Abdominal tergites 2—8 with narrow lateral black stripe only, no trace of median dark stripe or spots. Middle as well as front coxae with a conspicuous dark mark on the outer side. Wings and hypopygium as in the type.

Station 9; 13. V; 1 ♂, also one other damaged specimen (♀?).

A second male from the same place is very nearly identical with the variety *punctiventris*, recently described from Siam, but is too damaged for a full comparison.

Libnotes oralis EDW. (*L. strigivena* DE MEIJ. nec WALK.)

Station 13, II. 1922; one specimen, probably ♂. Apparently only differs from the type ♀ from the Malay Peninsula in its larger size and the stronger white dusting on the posterior part of the thorax.

Wing-length, 18 mm.; tip of abdomen broken.

The species is represented in the Amsterdam Museum from Java and Sumatra.

Libnotes aurantiaca DOL.

Station 9, 15. V—4. VII. 1921; 2 ♂ and 2 other broken specimens. Station 13, 1200 m., 27. VIII. 1921; 1 specimen. All agree well with OSTEN-SACKEN's description, except that the four spots on the praescutum are more or less completely united into a conspicuous black band across the middle of the sclerite.

Libnotes subfasciata sp. n.

♂. Head dark grey, darker in the middle; eyes actually in contact for some distance. Antennae with the scape yellowish, flagellum black; flagellar segments (except the first two or three) rather elongate, with short necks, and provided each with a single very long dorsal hair, nearly three times as long as the segment. Proboscis yellowish; palpi with the first segment yellowish, remainder black. Thorax dull brownish ochreous, without markings dorsally but the postnotum darker; sides of praescutum rather broadly dark brown; a dark brown area on the proepimera, another on the sternopleura, a third just below the base of the wings, and a fourth, much smaller, on the hypopleura. Abdomen ochreous; each tergite with a brown transverse basal band. Hypopygium with the normal structure; parameres with rather distinctly hooked tips. Legs brownish ochreous; front coxae mostly dark brown; femora without dark rings. Wings hyaline, with two broad though very faint transverse grey bands, most easily visible when the wing is viewed obliquely. The first band occupies about the basal third of the wing, the second is narrower and includes the whole of the discal cell. A grey spot over the tip of the radial cross-vein; tip of wing also just perceptibly darkened. Veins dark in the grey areas, lighter elsewhere. Cross vein r rather sharply bent, the horizontal portion short, but about as long as the short vertical tip of R 1.

R s straight, though not quite so short and oblique as usual in this group. M 1 + 2 forking far beyond the middle of the discal cell; C u 1 a close to the tip of the discal cell (just before in the type, just beyond in the second specimen). Halteres not very long, brownish, base of stem yellowish.

Length of body, 9 mm.; wing, 10.5 mm.

Station 9, 15. V. 1921; 2 ♂ (including type).

Station 8, II. 1922; 1 ♂.

This interesting species is evidently nearly allied to *L. innotabilis* (WALK.) from Ceram. WALKER's type however differs in the following particulars:

Thorax and abdomen unicolorous ochreous. Wings with the grey bands indicated only by a slight darkening of the veins in the corresponding areas. Cross-vein r much longer and curved rather than bent.

Libnotes ferruginata sp. n.

Head ferruginous; flagellum, proboscis and palpi black. Flagellar segments gradually elongate, without necks; dorsal hairs 2—3 times as long as the segments. Front narrow but distinct. Thorax, abdomen and legs uniformly ferruginous brown. Wings strongly and uniformly tinged with a similar colour, stigma slightly darker, very large. R s moderately long but quite straight; r very long and curved; cells M 1 and M 3 equal at base; C u 1 a in middle of discal cell. Halteres with brown stem and blackish knob.

Length of body, ♂ 13—14, ♀ 10—11 mm.; wing, ♂ 19—20 mm, ♀ 12—13 mm.

Station 9, 11. — 17. V. 1921: (type) 2 ♀.

Station 13, 30. VIII. 1921; 1 ♂.

Libnotes sphagnicola sp. n.

♀ Head, thorax and abdomen uniformly rather dark ochreous brown. Antennae, mouthparts and legs lighter ochreous. First six flagellar segments nearly globular, remainder gradually becoming more slender, each with a rather long dorsal hair, about twice as long as the segment. Front narrow but distinct. Wings with a rather strong ochreous tinge, somewhat more brownish over the cross-veins; suffused brown spots over the arculus, the base of R s and tips of Sc and R 1. Cross-vein r almost straight but oblique, twice as long as the tip of R 1. R s rather long but quite straight. Cells M 1 and M 3 equal at base; C u 1 a at middle of discal cell. Halteres with ochreous stem and black knob.

Length of body, 10—12 mm.; wing, 12—16 mm.

Station 12, 1095 m., 6. II. 1922; 1 ♀ in sphagnum (type).

Station 13, 28—II—3—III 1922; 1 ♀.

Libnotes subcostalis sp. n.

♂ Head blackish grey. Front very narrow, at its narrowest part only as broad as one facet. Antennae black; flagellar segments all rather elongate

oval; dorsal hairs about three times as long as the segments. Palpi black. Proboscis ochreous. Thorax dull, uniformly light ochreous, except for the pronotum, which is blackish in the middle. Abdomen ochreous, last few tergites dark dorsally except at the apex. Hypopygium with the fleshy lower claspers very large, quite twice as long as the small upper claspers; rostrum small, with two small black spines. Legs with the coxae and trochanters ochreous; remainder missing. Wings with a slight yellowish tinge; costal cell deeper yellow; veins light brown; stigma small, round, black. Sc extremely long, swollen at the tip, reaching almost to the tip of R 1. Sc 2 rather faint, far before tip of Sc 1 and slightly before apex of Rs. Tip of R 1 vertical, in a line with and rather shorter than r. Rs slightly curved and not very oblique. Cells M 1 and M 2 equal at base. Cu 1 a about middle of discal cell. Ax straight except at the tip, which is slightly curved. Halteres ochreous, knob darker.

Length of body, 9 mm.; wing, 11 mm.

Station 13, 30. VIII. 1921; 1 ♂.

Libnotes toxopei sp. n.

♂ Head blackish, considerably dusted with grey. Front very narrow. Antennae with the first segment brown, remainder black. Flagellar segments rounded to shortly oval, with short but distinct necks; pubescence nearly as long, verticils a little longer than the diameter of the segments. Palpi black, proboscis dark brown. Thorax dark brownish, pronotum ochreous at the sides; praescutum considerably dusted with grey, and when seen from in front with three dark brown stripes, the middle one running the whole length. Abdomen dark brown, posterior margins of segments ochreous. Hypopygium distinctively formed: only one pair of claspers, ending in two longish and somewhat curved points; side pieces with a long apical ventral projection, stout basally, but narrowed apically and truncate at the tip. Legs brownish, femora with a rather broad but ill-defined subapical black ring. Wings hyaline, veins blackish except for a short section of R 1 just before the stigma, which is yellowish; stigma oval, dark brown. Venation as in *L. forcipata* DE MEIJ., except that the discal cell is longer, and Cu 1 a near its middle. Halteres ochreous.

Length of body, 7 mm.; wing, 8 mm.

Station 9. 17. V. 1921; 1 ♂.

Dicranomyia (?) **tricholabis** sp. n.

♂ Head brownish behind, the wide frons silvery-white; face mainly ochreous. Antennae black, except for the first segment, which is brownish; flagellar segments nearly round, except the last (12th) which has a rather long cylindrical terminal portion; verticils short. Palpi well-developed, black. Thorax wholly orange; mesonotum dull, pleurae rather shining. Prothorax small and inconspicuous. Mesonotum not much arched, with a

few black hairs. Abdomen rather short, blackish dorsally with an ill-defined orange median line, venter and base of hypopygium ochreous. Side pieces long, with a small hairy median lobe on the inner side. Both pairs of claspers hairy, the upper one slender and rather twisted, without spines; lower one moderately large but not swollen. Parameres moderately broad, tips pointed but scarcely hooked. Legs black, except for the orange coxae and trochanters. Claws devoid of teeth. Pubescence moderate. Wings brownish tinged. Stigma very large, elongate oval, dark brown; a heavy dark brown seam over the cord and the apex of the discal cell. Sc ending opposite base of Rs: Sc 2 well before its tip. Tip of R 1 sharply turned up at r, beyond middle of stigma. Rs gently curved, nearly as long as R2 + 3; r-m well preserved; Cu 1 a at base of discal cell; An and Ax both curved down at tip; anal angle feebly marked. Halteres black.

Length of body, 4 mm.; wing, 5.5 mm.

Station 9, 10. V. 1921, 1 ♂.

A very distinct species, both by coloration and by the structure of the hypopygium and claws. It is probably not a true *Dicranomyia*, but I do not know where else to place it.

Dapanoptera perdecora (WALKER). (N. syn.: *D. lorentzi* DE MEIJ.).

Station 9, 10. VI. 1921, 1 ♀.

Limnobia longiradius EDW.

Station 11, 24. VI. 1921, 1300 m., 2 ♂.

The occurrence of this species in Buru is very interesting. I have just described it from the Malay Peninsula, and find no difference between these specimens and the type.

Elephantomyia delectata (WALKER).

Station 9. 15. V. 1921, 1 ♂.

Station 17. 21. X. 1921, 1 ♂.

This is very closely related to *E. egregia* DE MEIJ., of Java, but differs somewhat in wing-markings.

Styringomyia ensifera EDW.

Station 17, 21. X. 1921. 1 ♀.

Gonomyia (Lipophleps) brevivena (SKUSE).

Station 9, 12. VI. 1921. 1 ♀.

***Gonomyia (Ptilostena) punctipennis* sp. n.**

Head dull ochreous. Antennae with the scape pale ochreous, first segment distinctly longer than usual; flagellum brownish; segments all oval, verticils about twice as long as the segments in the male, rather shorter in the female. Proboscis and palpi black. Thorax dark brown,

somewhat pruinose; pronotum and shoulders ochreous; pleurae dark above, shading to ochreous below. Abdomen dark brown, posterior margins of tergites ochreous. Hypopygium as figured. Legs uniformly ochreous; on the front pair the first tarsal segment is a little over half as long as the tibia. Wings nearly hyaline, veins brownish, costa and R 1 a little lighter. Stigma distinct, dark brown, filling out the end of cell R 1. Small but distinct dark spots at the arculus, the base of Rs and the tip of R 3; Cu 1 a and r-m also somewhat clouded. Sc ending immediately beyond the base of Rs, which is almost angled; R 2 ending only slightly beyond the tip of R 1. Halteres dark.



Fig. 2. *Gonomyia* (*Ptilostena*) *punctipennis* n. sp. — ♂ hypopygium (large clasper omitted from one side).

Length of body, 6—7 mm.; wing, 7—7.5 mm.
Station 13, 27. VIII. 1921; 1 ♂ 1 ♀.

***Trentepohlia* (*Mongoma*) *subquadrata* sp. n.**

Head black, with the usual central keel. Antennae dark brown; flagellar segments elongate oval, with short verticils. Palpi black. Labium brownish. Thorax dark brown, unmarked, scarcely shining. Abdomen dark brown above, lighter beneath. Hypopygium of the usual structure; female cerci moderately long and slender, less curved than usual. Legs not remarkably slender, uniformly dark brown. Middle and hind femora with a close-set row of about 12—15 short bristles at the base beneath. Wings slightly and uniformly greyish tinged, stigma absent; veins all dark brown. Cross-vein r oblique, joining R 2 + 3 at or immediately before the fork. Discal cell small and subquadrate. Cell M 1 with its base nearer the base of the wing than that of cell M 3, in some specimens reaching back almost to the base of the discal cell. Cu 1 a at or just before base of discal cell; Cu 2 ending in the tip of An. Halteres black, base of stem light brown.

Length of body, ♂ 7—8 mm., ♀ 9 mm.; wing 7—7.5 mm.

Station 1, 8. XII. 1921, „onder steenen bij een beek”; 3 ♂ 1 ♀.

Conosia irrorata WIED.

Station 9, 21. V. 21, 1 ♀. Station 12, 6. II. 21, 1 ♀. Station 13, 3. IX. 21, 1 ♀.

[Also station C (Celebes), 27 — III — 1922, 1 ♀].

Nesopeza costalis (BRUN.)

Station 11, 24. VI. 21, 1200 m., 1 ♂ 1 ♀.

***Ctenacroscelis pallescens* sp. n.**

Head bright ochreous, only the antennal flagellum and the outer segments of the palpi darkened. First two flagellar segments almost cylindrical, the first nearly twice as long as the second, remaining eight segments gradually shorter, rounded beneath. Thorax uniformly bright ochreous,

pubescence inconspicuous. Abdomen with segments 1—5 ochreous, 6—8 black; in the female the 7th tergite has the apical margin narrowly ochreous. Genitalia bright ochreous. Hypopygium without conspicuous pubescence; posterior margin of the ninth tergite only slightly indented, but the tergite provided with a pair of strong keels which converge posteriorly; outer claspers very broad on the basal half but suddenly narrowed in the middle, the apical half being slender, less than half as broad as the basal half. Female cerci long and slender. Legs ochreous, the tips of the femora broadly dark brown. Wings with a very faint brownish tinge, costal cell rather darker; stigma and a just perceptible seam on Cu 1 a brown; veins brown. Cross-vein r at base of R 2; discal cell over twice as long as broad; cell M 1 quite four times as long as its stem; Cu 1 a rather less oblique than usual in this genus; m—cu fusion rather long. Halteres ochreous, the knob dark brown.

Length of body, 18 mm. (♂) — 26 mm. (♀); wing 24 — 28 mm.

Station 9, 9. V.—12. VII. 1921; 3 ♂ 3 ♀.

This is most nearly allied to *C. pallidus* (WALK.) from New Guinea, WALKER's type male showing the following differences: Antennae a little longer, all the flagellar segments almost cylindrical. Front rather narrower (one-fourth instead of one-third as broad as one eye). Hypopygium with the ninth tergite more notched but without keels, claspers with the outer half less slender. Discal cell proportionately deeper; cell M 1 broader and shorter; Cu 1 a more oblique.

Ctenacroscelis infindens (WALKER).

Station 1, IV.—XII; 1 ♂ 2 ♀. Station 6, IV; 1 ♂.

Station 8, 11. VI. 1921; 1 ♂ 1 ♀.

Station 9, 3. VI. 1921; 1 ♂. Station 13, 28. II.—3. III. 1922. 1 ♀.

This is perhaps only a variety of *C. umbrinus* (WIED.), but the flagellar segments of the male are less enlarged beneath, the claspers are narrower, and the arculus is conspicuously pale.

Ctenacroscelis novae-guineae (DE MEIJ.)? var.

Station 9, 1. VII. 1921, 1 ♀.

Differs from DE MEIJERE's type in having the abdomen entirely dull instead of mainly shining.

Tipula tropica DE MEIJ.

Station 13, 27. VIII. 1921, 1 ♀.

Nephrotoma toxopei sp. n.

Head orange, with a small, more or less rounded black occipital spot, and a very small blackish area adjoining each eye. Rostrum short, uniformly orange, nasus moderately long. Antennae with the scape orange, flagellum blackish, very little longer in the male than in the female, segments

only slightly thickened at the base. Palpi brownish. Thorax: Pronotum orange. Praescutum orange, the lateral margins narrowly dull black; three separate shining black stripes, margined with dull black; the middle stripe sometimes brownish, especially in front, running from the front margin to the suture; lateral stripes not turned down in front. Scutum with the usual two stripes, shining black, margined with dull black. Scutellum entirely dull orange, rather darker in tint than the rest of the thorax; the pits on each side of it brownish. Postnotum orange, with a more or less divided dark patch at the apex; pubescence blackish and rather conspicuous. Pleurae orange; a brown spot on the pleurotergites adjoining the base of the postnotum. Abdomen orange; tergite 1 with a small black spot, another at the base of tergite 2, tergites 2 — 6 each with a black apical triangle, 7 all black. Male hypopygium without conspicuous hair; eighth sternite with short median projection; claspers rather short and broad. Legs brownish, tibiae and tarsi darker. Wings with a slight brownish tinge, indistinctly darker at the tip; stigma dark brown, bare. Cell M 1 broadly sessile; discal cell narrow, not unusually small. Halteres dark brown, tip of knob lighter.

Length of body, ♂ 14 mm., ♀ 17—19 mm.; wing 14—16 mm.

Station 1, 29. X. and 8. XII. 1921; 4 ♂ 4 ♀.

Although resembling *N. scurroides* (DE MEIJ.) and *N. flavoscutellata* EDW., in many respects, this species seems to be quite distinct from both.

***Nephrotoma buruensis* sp. n.**

Head orange, with a small black occipital spot and a small dark area adjoining each eye. Rostrum orange; nasus long and slender with black hair. Antennae with the scape rather dark brown, flagellum black; in the female the flagellum is about as long as the thorax, in the male nearly twice as long, the segments considerably swollen beneath at the base and towards the tip. Palpi brownish, darker apically. Thorax: Pronotum orange, sides blackish. Praescutum orange, with three separate black stripes; the middle stripe shining, with a dull border, not reaching back to the suture; lateral stripes entirely dull, their anterior ends rounded, not turned down. Scutum orange, with two broad entirely dull black stripes. Scutellum and postnotum orange, the latter with a double black apical mark. Pleurae orange. Abdomen with the first tergite orange, with a blackish mark in the middle; 2 — 5 each with a black band at the base, connected by a narrow line with a black apical triangle, lateral margins also black; segments 6 — 8 entirely shining black. Hypopygium rather large, with longish yellow hair ventrally; eighth sternite with rather short but very broad projection; claspers rather long, tapering to fine points. Legs largely black; coxae, trochanters and bases of femora (specially the posterior pairs) orange. Wings with a slight brownish tinge; stigma dark brown,

pubescent. Cell M 1 just sessile or shortly stalked; discal cell normal. Halteres brownish; knob mostly ochreous.

Length of body, ♂ 12 mm., ♀ 16 mm.; wing, 14—15 mm.

Station 9, 10. V.—15. VI. 1921; 5 ♀.

Station 13, 30. VIII. 1921. 1 ♂ 1 ♀. 28. II.—3. III. 1922.

Station 4, 29.—31. I. 1922. 1 ♂.

Differs from *N. speculata* (DE MEIJ.) in the entirely orange scutellum and in other details.

Nephrotoma javana (WIED.)?

Station 9, 12. VI. 1921; 1 ♀.

Station 4, 29.—31. I. 1922; 1 ♀.

Nephrotoma colorata (WALK.)?

Station 13, 28. II.—3. III. 1922; 1 ♀.

The specimen agrees with DE MEIJERE's redescription, except that the head is largely dark above and the scutellum is orange, only slightly brownish at the tip.

Scamboneura vittifrons (WALK.)

Station 4, 29.—31. I. 1922; 1 ♂ 1 ♀.

Station 7, 4. IX. 1921; 1 ♀.

Station 9, 19. V. 1921; 1 ♀.

Station 13, 30. VIII. 1921; 1 ♂.

Station 15, 1. IX. 1921; 1 ♀.