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Type Specimens of Mosquitoes Described by Shinichiro Yamada

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Abstract Nineteen species-group taxa, and one unavailable manuscript name, of mosquitoes published by Shinichiro Yamada from 1917 to 1932 are listed. For each taxon, type material is examined and its present taxonomic position is stated. Holotypes of three species, lectotypes of two species, and syntypes of 11 species are kept in the National Science Museum, Tokyo, and lectotypes of two species are in the National Institute of Infectious Diseases, Tokyo, whereas syntypes of *Culex hayashii* Yamada, 1917, have not been located.

Key words: Diptera, Culicidae, type specimens, Shinichiro Yamada

Introduction

Shinichiro Yamada (1883–1937) published eight papers on the taxonomy of mosquitoes from 1917 to 1932 (one paper with S. Watanabe) wherein he described 19 new species. Yamada, then head of the Division of Medical Entomology, Institute for Infectious Diseases (IID; currently Institute of Medical Science), University of Tokyo, died during a field study tour in North China. Most of Yamada's collection of mosquitoes was then preserved in the Medical Entomology Laboratory, IID, and later transferred to the Department of Parasitology of the same institute. Knight and Stone (1977) mentioned in their catalogue of world mosquitoes that all of Yamada's type specimens were "deposited in IID," but, in the 1970s, the mosquito collection of the Department of Parasitology was transferred to the National Science Museum, Tokyo (NSMT).

The present paper, the first part of an enumeration of the mosquito type specimens deposited in NSMT, deals with the type material of the taxa described by Yamada. The Anophelinae are listed first and then follow the Culicinae. Within each subfamily, genera and species are listed alphabetically following Yamada's original names, with notes on type series and present taxonomic position of the species. We were able to examine the type series of all 19 mosquito taxa described by Yamada, except for that of *Culex hayashii* Yamada, 1917, which has not been found. In the

original descriptions, Yamada designated syntypes or did not designate types, with the exception of the three species, the holotypes of which were originally fixed either by monotypy or original designation. For four species lectotype designations have already been made (Knight, 1968; Huang, 1972 a, b, 1974). All the types are kept in NSMT, except for lectotypes of two species, which are preserved in the National Institute of Infectious Diseases, Tokyo (NIID).

Yamada's collection of mosquitoes

The Yamada collection of mosquitoes consists of about 1,700 pinned adults collected mainly in Japan, Korea, and Taiwan. Each specimen bears a collection data label, but the specimens, including the types, bear no identification labels or type labels by Yamada.

The main part of the Yamada collection was stored in a small wooden cabinet, which was kept separate from the other general collection transferred from IID. The cabinet housed ten wooden drawers, eight of which contained Yamada's material. Six of the eight drawers each contained six to 16 small carton boxes with glass lids (most of them 45×60×45 mm in size), most of which were serially numbered from "1" to "84." On the inner side of the door of the cabinet, "The List of Yamada's Mosquitoes Collection" [original English] was attached. This list, which will be referred to as the "List" in the following discussions, gives the species name for each numbered carton box. Apparently, this List was not prepared by Yamada himself, but was probably made during 1950s; nevertheless, it appears to inform us of Yamada's identification of the specimens contained in each box. Namely, for the species described by Yamada, the numbers "1" to "84" correspond to the numbers given for each species in the original descriptions. Most of the type material is considered to be housed in this cabinet.

Another part of Yamada's original collection was found in the general collection of mosquitoes transferred from IID. There are specimens collected by Yamada or by others in the 1910s and 1920s, classified into species, and placed under identification labels hand-written by Yamada. Specimens in the general collection were stored in large, wooden standard boxes (each 410×515×60 mm in size with a glass top) housed in large cabinets, each of the latter storing 20 standard boxes.

For curatorial purposes, we have put an identification label on each specimen following Yamada's identification and then moved all of the specimens from the original IID boxes to the standard NSMT storage boxes used for the general insect collection of the museum, i.e., carton unit trays (of three different sizes) stored in large wooden boxes. We also attached a large identification card to each unit tray. Unfortunately, neither microscope slides containing male genitalia nor larval or pupal specimens were found in the collection.

Yamada's designations of syntypes

In many of his descriptions of new taxa, Yamada listed specimens with their collection data under the title of "Localities" (or its equivalent in Japanese) and also designated syntypes in another section under the title of "Notes" (or its equivalent in Japanese). The designated syntypes usually do not include all the specimens listed in the "Localities" section. We regard the specimens not designated as syntypes, even though they were listed in the "Localities" section, as being expressly excluded from the type series (International Code of Zoological Nomenclature, Fourth Edition, Article 72.4.6., International Commission on Zoological Nomenclature, 1999).

In the cases of *Aedes chemulpoensis* Yamada, 1921, *Aedes esoensis* Yamada, 1921, and *Aedes galloisi* Yamada, 1921, Yamada (1921) designated the offspring of a female listed in the "Localities" section as syntypes without giving definite rearing data. In Yamada's collection, we found no specimen with a label clearly showing that its bearer had been reared; however, we believe, as did Huang (1972a, 1974), that Yamada placed on the reared specimens labels with the collection data of their mothers. This assumption will explain, at least partly, the apparent discrepancies in the numbers of existing specimens of these species and the numbers reported in the original descriptions. In the case of *Aedes esoensis*, Yamada (1921: 77) listed 17 females (no males) from Kanayama (23–8–1917) in the "Localities" section and designated "three females and three males bred from the eggs laid by a female caught at Kanayama" as syntypes. Actually, only three females and three males with the collection data "Kanayama, 23–8–1917" were found in the collection. In this case, it seems reasonable to infer that the existing specimens are the syntypes. Similar reasoning was used in the cases of *Aedes chemulpoensis* and *Aedes galloisi*.

Enumeration of Taxa and Type Specimens

Anophelinae

Anopheles edwardsi Yamada, 1924: 238.

Type material examined. Syntypes: 5♀, each labeled "Inokashira near Tokyo, 9–3–1921, S. Hirayama" "Syntype, *Anopheles edwardsi* Yamada, 1924, Det. T. Kurihara, 2001." The syntypes are more or less damaged; the right hind leg is missing in one specimen, the right fore leg is missing in another specimen, the mid and hind legs are missing on the left side in a third specimen, the left hind leg is missing in a fourth specimen, and the head, right hind leg, and abdomen are missing in the remaining specimen.

Present taxonomic position. A junior synonym of *Anopheles koreicus* Yamada & Watanabe, 1918 (Nakayama, 1942; Tanaka *et al.*, 1979).

Remarks. Yamada (1924: 240) stated "Distribution.–Inokashira near Tokyo (9.iii.1921, S. Hirayama)" and "Type.–The syntype (No. 9) consists of five females."

In carton box No. 9, we found five specimens, all labeled "Inokashira near Tokyo, 9–3–1921, S. Yamada." We regard them as syntypes.

LaCasse and Yamaguti (1948: 30) considered that "this should be referred as a subspecies of *An. koreicus*." Their view is not acceptable, because typical specimens of *Anopheles koreicus* have also been obtained in Inokashira, the type locality of *Anopheles edwardsi* (Yamada & Watanabe 1918). These two taxa are synonyms, representing only individual variations.

Anopheles japonicus Yamada, 1918: 689.

Type material examined. Syntypes: 4♀, each labeled "Kanayama, Hokkaido, 23–8–1917, S. Yamada" "Syntype, *Anopheles japonicus* Yamada, 1918, Det. T. Kurihara, 2001" and each with a different hand-written number, "1", "2", "4", and "5", respectively, on data labels. The head, all right legs, and all wings are missing in syntype "1", all left legs, right mid and hind legs, and the left wing are missing in syntype "2", and only the thorax and part of the left wing are remaining in syntype "5". Syntype "4" is in good condition but the right antenna is broken at apex and all right legs are missing.

Present taxonomic position. A valid subspecies, *Anopheles* (*Anopheles*) *lindesayi japonicus* Yamada, 1918 (LaCasse & Yamaguti, 1950; Tanaka *et al.*, 1979).

Remarks. Yamada (1918: 691) noted, "Collection localities-Hokkaido, Ishikari, Kanayama (five females, 1917.8.23), Kitami, Rubeshibe (two females, 1917.8.29)" (original in Japanese). According to the List, the material of this species should be in carton box No. 4, where we found two females labeled "Kanayama, Hokkaido, 23–8–1917, S. Yamada", in addition to three specimens collected after 1918 when this species was described (one male labeled "Mt. Myogi, Japan, 4–8–1921, I. Omori" and two females labeled "Murotosaki, Prov. Tosa, 15–8–1921, S. Hirayama"). The data labels of the two Kanayama specimens bear the hand-written letters "2" and "4", respectively. Apart from these, we found two more females labeled "Kanayama, Hokkaido, 23–8–1917, S. Yamada" with the hand-written letters "1" and "5", respectively, in an unnumbered carton box. We regard the four female specimens from Kanayama as syntypes. The remaining three syntypes from Kanayama and Rubeshibe have not been located.

Six years after the publication of the original description, Yamada (1924: 219) noted, "Type-The syntype (No. 4) consists of three females from Kanayama (23.viii.1917)" and "One male from Mt. Myogi (4.viii.1918) is taken as idiotype", but these statements have no significance in terms of type designation. Knight and Stone (l977) were wrong in stating that the type locality of this species was "(Kanayama), Hokkaido (and Mt. Myogi), Japan."

Anopheles koreicus Yamada & Watanabe, 1918: 206.

Type material examined. Syntypes: 3♀, each labeled "Heisho, Korea, July

1916, O. Watanabe" "Syntype, *Anopheles koreicus* Yamada & Watanabe, 1918, Det. T. Kurihara, 2001" and each with a different hand-written number, "1," "5", and "6", respectively, on data labels. The head, all right legs, and left fore and mid legs are missing in syntype "1", both the front legs and left hind leg are missing in syntype "5", and all right legs and left mid leg are absent in syntype "6".

Present taxonomic position. A valid species, *Anopheles* (*Anopheles*) *koreicus* Yamada & Watanabe, 1918 (Tanaka *et al.*, 1979).

Remarks. Yamada and Watanabe (1918: 209) did not designate types but only noted, "Collection localities – Chosen, Heisho (P'yongch'ang) (eight females), July 1916" (original in Japanese). Later Yamada (1924: 237) mentioned, "Distribution – Rather rare in Korea, Kyushu and Honshu. Heisho, Korea (8♀ vii.1916, S. Watanabe); Nagasaki (5♀ and 2♂ 7.v.1921 W. A. Lamborn): Inokashira near Tokyo (2♀ & 2♂ 7.vi.1921, S. Hirayama)." Then he stated, "Type – The syntype (No. 8) consists of three females from Heisho, Korea" and "Two males from Inokashira are taken as the idiotype." Despite this it is clear that only the eight females with the collection data "Heisho, Korea (8♀ vii.1916, S. Watanabe)" belong to the type series.

We found only four specimens labeled "Inokashira near Tokyo, 7–6–1921, S. Hirayama" in carton box No. 8, but three females labeled "Heisho, Korea, July 1916, O. Watanabe" were found in an unnumbered carton box. The latter three specimens are regarded as syntypes.

Anopheles sineroides Yamada, 1924: 233

Type material examined. Syntypes: 2♂ 2♀, each labeled "Bibai, Hokkaido, 21–8–1919, S. Yamada" "Syntype, *Anopheles sineroides* Yamada, 1924, Det. T. Kurihara, 2001." The right wing is missing in a male syntype, and the head and anterior four legs are absent in the other. The head and left hind leg are absent in a female syntype, and the left antenna, right wing, and left hind leg are missing in the other female.

Present taxonomic position. A valid species, *Anopheles* (*Anopheles*) *sineroides* Yamada, 1924 (Tanaka *et al.*, 1979).

Remarks. Yamada (1924: 234) stated, "Type – The syntype (No. 7) consists of two females and two males from Bibai" after giving collection data from various localities including "Bibai (11♀ & 4♂, 21.viii.1919)". Carton box No. 7 contained two males and two females labeled "Bibai, Hokkaido, 21–8–1919, S. Yamada" and one female labeled "Tokyo, indoor, Nov. 10. 1924, K. Matsumoto." The four specimens from Bibai are regarded as syntypes.

Myzomyia hanabusai Yamada, 1925: 471

Type material examined. Syntypes: 2♂ 2♀, each labeled "Kagi, Formosa, 15–4–1921, S. Hirayama" "Syntype, *Myzomyia hanabusai* Yamada, 1925, Det. T. Kurihara, 2001." Each female has a hand-written number, "1" and "2", respectively,

on the data label near its corner. Two female syntypes are in good condition, whereas one male syntype has no hind leg on the right side and the other male has no abdomen.

Present taxonomic position. A junior synonym of *Anopheles* (*Cellia*) *maculatus* Theobald, 1901 (Christophers, 1931; Rattanarithikul & Harbach, 1990).

Remarks. Yamada (1925: 475) stated, "Type – The syntype (No. 15) of the species consists of four females and two males from Kagi, Formosa" after giving collection data from various localities in Taiwan including "Kagi (v.1917, J. Hatori; 15.iv.1921, S. Hirayama)". Carton box No. 15 contained two males and two females labeled "Kagi, Formosa, 15–4–1921, S. Hirayama". These four specimens are considered syntypes. The other two female syntypes have not been found.

Culicinae

Aedes chemulpoensis Yamada, 1921: 54.

Type material examined. Lectotype (designated by Huang, 1974): ♂ labeled "Shorinri, Jinsen, Chosen, 28–8–1920, S. Hirayama" "YmH-'69–82" "*Ae.* (*Stegomyia*) *chemulpoensis*, Lectotype ♂ Y. m. Huang '69." Possible paralectotypes: 4♀, each with the same data label as for the lectotype and the label "Possible paralectotypes, *Aedes chemulpoensis* Yamada, 1921, Det. T. Kurihara, 2001." The lectotype is in good condition.

Present taxonomic position. A valid species, *Aedes* (*Stegomyia*) *chemulpoensis* Yamada, 1921 (LaCasse & Yamaguti, 1950).

Remarks. Yamada (1921: 57) stated, "Three females and one male bred from the eggs deposited by a female caught at Chemulpo are taken as the syntype (No. 21)"; the collection data "Jinsen (Chemulpo) (5♀, 28.viii.1920)" were given in the "Localities" section. Huang (1974) examined Yamada's material and designated a male labeled "Shorinri, Jinsen, Chosen, 28–8–1920 (S. Hirayama)" as lectotype (with associated terminalia slide, YMH–'69–82). In carton box No. 21 we found four females and two males labeled "Shorinri, Jinsen, Chosen, 28–8–1920, S. Hirayama", one of the males bearing Huang's lectotype label. The four females should be the syntypes and probably their mother, but we were not able to distinguish the syntypes because they all had the same label. We labeled all the four females as "possible paralectotypes".

Aedes esoensis Yamada, 1921: 77.

Type material examined. Syntypes: 3♂ 3♀, each labeled "Kanayama, Hokkaido, 23–8–1917, S. Yamada" "Syntype, *Aedes esoensis* Yamada, 1921, Det. T. Kurihara, 2001." Of the three males, one is intact, while another has no wing on the left side and the other has no hind leg on the left side. The three females have more damages; the head, all left legs, and right fore leg are missing in one specimen, the left

antenna, left wing, and all legs, except for right fore leg, are absent in another, and both the antennae, left fore and mid legs, and right fore and hind legs are missing in the other.

Present taxonomic position. A valid species, *Aedes* (*Aedes*) *esoensis* Yamada, 1921 (Tanaka *et al.*, 1979).

Remarks. Yamada (1921: 77) stated, "Three females and three males bred from the eggs laid by a female caught at Kanayama are taken as the syntype (No.38)." In the "Localities" section, the collection data "Kanayama (17♀, 23.viii.1917)" were given. In carton box No. 38 there were three males and four females, of which three males and three females had the label "Kanayama, Hokkaido, 23–8–1917, S. Yamada", while the remaining female had the label "Yengaru, Hokkaido, 25–8–1917, S. Yamada." We regard the three males and three females labeled "Kanayama, Hokkaido, 23–8–1917, S. Yamada" as syntypes. Yamada (1921, fig. 4) also described and illustrated the male genitalia, but no dissected male specimen was found in the collection.

Aedes esoensis Yamada var. ***flavus*** Yamada, 1927: 575. Nomen nudum.

Remarks. Yamada (1927) published this "variety" name under the heading "11. *Aedes esoensis* Yamada n. var. *flavus* (MS)." He stated, "This mosquito is very closely allied to *Aedes esoensis* Yamada, but differs slightly in the coloration of its whole body and in the male genitalia, so I consider it better to treat it as a variety of *Aedes esoensis* and will give a description of it later" and "Dist.-Hokkaido and Sakhalin." A full description, however, was never published. Sasa *et al.* (1950) regarded this variety name as a nomen nudum and described a new species, *Aedes yamadai*, based on the same series of specimens. We accept their position, as did Knight and Stone (1977) and Tanaka *et al.* (1979).

Aedes flavopictus Yamada, 1921: 52.

Type material examined. Lectotype (designated by Huang, 1972 b): ♂ labeled "Shiba, Tokyo, 20–4–1916, S. Yamada" "Lectotype, *Aedes flavopictus* Yamada, 1921, Det. T. Kurihara, 2001" (NIID). Paralectotypes: 2♂ 1♀, each with the same data label as for the lectotype and the label "Paralectotype, *Aedes flavopictus* Yamada, 1921, Det. T. Kurihara, 2001." The lectotype is in good condition.

Present taxonomic position. A valid species and subspecies, *Aedes* (*Stegomyia*) *flavopictus flavopictus* Yamada, 1921 (Tanaka *et al.*, 1979).

Remarks. Yamada (1921: 54) stated, "Two females and three males caught at Shiba, Tokyo, are taken as syntype (No. 65)", after giving the collection data "2♀, 5♂, 20.iv.1916" from the same locality in the "Localities" section. In carton box No. 65, there were originally three males and two females. Among them, three males and one female are labeled "Shiba, Tokyo, 20–4–1916, S. Yamada", while one female is labeled "Inage near Tokyo, 17–5–1916, S. Yamada." Huang (1972b) designated one

of the males as the lectotype, which is now kept in NIID. Huang (1972b: 22) also mentioned, "Syntypes: 2 males and 1 female with same data as lectotype; and 1 female from Inage, near Tokyo, 17–v–1916 (S. Yamada)"; however, the last specimen from Inage does not belong to the type series, and we have labeled the three remaining specimens from Shiba as paralectotypes. The remaining paralectotype, a female, has not been located.

Aedes formosensis Yamada, 1921: 67.

Type material examined. Lectotype (designated by Knight, 1968): ♀ labeled "Kappanzan, Formosa, 10–5–1921, S. Hirayama" "*Aedes formosensis* ♀ lectotype/ md 1966." Paralectotype: 1♀ with the same data label and a paralectotype label, "Paralectotype, *Aedes formosensis* Yamada, 1921, Det. T. Kurihara, 2001." The lectotype is in good condition.

Present taxonomic position. A valid species, *Ochlerotatus* (*Finlaya*) *formosensis* (Yamada, 1921) (Reinert, 2000).

Remarks. Yamada (1921: 69) stated, "Two females are taken as the syntype (No. 28)" after giving the collection data "Kakubanzan, Formosa (2♀, 10.V.1921, S. Hirayama)" under the heading of "Locality." Knight (1968) designated one of them as lectotype, noting "female lectotype (selected by M. Delfinado, VIII–1966) in Medical Zoology Laboratory, Institute of Infectious Diseases, University of Tokyo."

Aedes galloisi Yamada, 1921: 47.

Type material examined. Lectotype (designated by Huang 1972a): ♂ labeled "Sapporo, Hokkaido, 18–8–1917 (S. Yamada)" "lectotype det. Y. M. Huang (YMH-'69-81)" (NIID). Paralectotypes: 2♀, each with the same collection label as for the lectotype and a paralectotype label, "Paralectotype, *Aedes galloisi* Yamada, 1921, Det. T. Kurihara, 2001." The lectotype is in good condition.

Present taxonomic position. A valid species, *Aedes* (*Stegomyia*) *galloisi* Yamada, 1921 (Tanaka *et al.*, 1979).

Remarks. Yamada (1921: 51) stated, "Three females and two males bred from the eggs laid by a female caught at Sapporo, are taken as the syntype (No. 20)", after giving the collection data "Sapporo (5♀, 2♂, 19.viii.1917)" in the "Localities" section. Carton box No. 20 originally contained two males and three females, of which one male and two females are labeled "Sapporo, Hokkaido, 18–8–1917, S. Yamada" and one male and one female are labeled "Rubeshibe, Hokkaido, 29–8–1917, S. Yamada." Huang (1972a) designated the male from Sapporo as lectotype, labeling it "lectotype det. Y. M. Huang (YMH–'69–81)." The specimen is now preserved in NIID. The remaining two specimens from Sapporo, both females in NSMT, are regarded as paralectotypes. The difference in the date of collection between the original description and the label attached to the specimens is considered to be due to a lapsus or misprint. Two more paralectotypes, a male and a female, have not been found.

Aedes hatorii Yamada, 1921: 70.

Type material examined. Holotype (by monotypy): ♂ labeled "Daihoku [=Taihoku], Formosa, February, 1917, J. Hatori" "*A. hatorii* ♂ type" [hand-writing probably by M. Delfinado] "Holotype, *Aedes hatorii* Yamada, 1921, Det. T. Kurihara, 2001." The genitalia and two legs (left mid and hind legs) are missing in the holotype.

Present taxonomic position. A valid species, *Ochlerotatus* (*Finlaya*) *hatorii* (Yamada, 1921) (Reinert, 2000).

Remarks. Yamada (1921: 72) stated, "Type is a slightly denuded male (No. 29)" after giving the collection data "Taihoku, Formosa (1♂, Feb.1917, J. Hatori)" under the heading of "Locality." This male, which is the holotype, was found in carton box No. 29. There were two other males and one female, all labeled "Chuzenji, Nikko, Japan, 5–8–1921", in the same box, but they do not belong to the type series.

Aedes horishensis Yamada, 1921: 58.

Type material examined. Holotype (by monotypy): ♀ labeled "Horisha, Formosa, 12–4–1921, S. Hirayama" "Holotype, *Aedes horishensis* (Yamada's type – female)" [Huang's label]. The holotype is in good condition.

Present taxonomic position. A junior synonym of *Aedes* (*Stegomyia*) *annandalei* (Theobald, 1910) (Mattingly, 1965; Huang, 1977).

Remarks. Yamada (1921: 61) gave the collection data for one female, ["Horisha Formosa (1♀, 12.iv.1921, S. Hirayama)"], and stated "The type is a perfect female (No. 22)." In carton box No. 22, there were two females, the holotype and a specimen labeled "Shikanomura, East Formosa, 28–4–1921, S. Hirayama." The latter was not referred to in the original description and does not belong to the type series.

Aedes nobukonis Yamada, 1932: 228.

Type material examined. Syntypes: 1♂ 3♀, each labeled "Omura, 21–7–1916, S. Yamada" "Syntype, *Aedes nobukonis* Yamada, 1932, Det. T. Kurihara, 2001." The male specimen is in extremely poor condition, without abdomen, proboscis, one antenna, and five legs. One of the female specimens is also in poor condition, without its head; it bears a type-written label, "*Aedes nobukonis*". The other two females are in good condition, although each lacks a leg.

Present taxonomic position. A valid species, *Verrallina* (*Harbachius*) *nobukonis* (Yamada, 1932) (Reinert, 1999).

Remarks. Yamada (1932: 228) described both sexes of this species from "Omura, Kyushu" without designating type specimens. According to the List, carton box No. 37 contains the specimens of this species. We found one male and three females, all bearing the same label "Omura, near Nagasaki, 21–7–1916, S. Yamada" in the box and regard them as syntypes.

Sasa (1949: 409) examined Yamada's collection and stated, "I found the type

specimens of *Aedes nobukonis*, namely one male (genitalia taken) and 4 females collected by S. Yamada, in 1916, at Ohmura, Nagasaki." He also stated, "Eight other specimens of this species were found in another lot of Yamada's collection", and he "mounted [a female specimen from this lot] on slides for the purpose of the examination of thoracic pleura and tarsal claws." These eight specimens and slides were not found in the present collections.

Aedes omurensis Yamada, 1921: 73.

Type material examined. Syntypes: 2♂ 3♀, each labeled "Omura, near Nagasaki, 21–7–1916, S. Yamada" "Syntype, *Aedes omurensis* Yamada, 1921, Det. T. Kurihara, 2001." Each syntype has a different hand-written number on the data label, "1", "2", "4", "10", and "11", respectively; the former three are females and the latter two are males. The right hind leg and the apex of left antenna are missing in syntype "1", both the antennae, both the fore legs, and part of the other legs are missing in syntype "2", and the left antenna and left wing are missing in syntype "4". The males have no genitalia; the left fore and hind legs are also missing in syntype "10", and the right mid and hind legs are missing in syntype "11".

Present taxonomic position. A junior synonym of *Aedes* (*Aedimorphus*) *alboscutellatus* (Theobald, 1905) (Barraud, 1934).

Remarks. Yamada (1921: 76) noted, "Locality.-Omura, Kiushu (9♀, 3♂, 21.vii.1916, by the writer)" and stated, "Four females and two males are taken as the syntype (No. 35)." Carton box No. 35 contained two males and three females, all labeled "Omura near Nagasaki, 21–7–1916, S. Yamada". They are regarded as syntypes. The remaining female syntype has not been located.

Aedes seoulensis Yamada, 1921: 61.

Type material examined. Syntypes: 3♀, each labeled "Keijo, Chosen, 2–9–1920, S. Hirayama" "Syntype, *Aedes seoulensis* Yamada, 1921, Det. T. Kurihara, 2001." Two syntypes are in good condition, whereas the right antenna and all right legs are missing in the remaining specimen.

Present taxonomic position. A valid species, *Ochlerotatus* (*Finlaya*) *seoulensis* (Yamada, 1921) (Reinert, 2000).

Remarks. Yamada (1921: 63) stated, "Three females from Seoul are taken as the syntype (No. 36)", after giving the collection data "7♀, 2.ix.1920, S. Hirayama" from the same locality in the "Localities" section. There were three females labeled "Keijo [=Seoul], Chosen, 2–9–1920, S. Hirayama" in carton box No. 36. We regard them as syntypes.

Aedes watasei Yamada, 1921: 64.

Type material examined. Holotype (original designation): ♀ labeled "Omura near Nagasaki, 21–7–1916, S. Yamada" "*A. watasei* type ♀" [hand-writing probably

by M. Delfinado] "Holotype, *Aedes watasei* Yamada, 1921, Det. T. Kurihara, 2001." The holotype is in good condition, although the right wing is missing.

Present taxonomic position. A valid species, *Ochlerotatus* (*Finlaya*) *watasei* (Yamada, 1921) (Reinert, 2000).

Remarks. Yamada (1921: 66) gave collection data for two females ["Omura, Kiushu (2 ♀, 21.vii.1916, by the writer)"] and stated, "One perfect female is taken for the type (No. 23)." Carton box No. 23 contained one female (right wing missing) and one damaged specimen of unknown sex (head and abdomen missing), both labeled "Omura near Nagasaki, 21–7–1916, S. Yamada." The female specimen is larger than the other and bears the label "*A. watasei* type ♀", hand-written probably by M. Delfinado. We regard this female specimen as the holotype, because the wing of this specimen is about 3.59 mm long, agreeing with the measurement given in the original description ("Wing 3.60"); the wing of the other, smaller specimen measures about 3.13 mm.

Culex hayashii Yamada, 1917: 67.

Type material. Not located.

Present taxonomic position. A valid species and subspecies, *Culex* (*Eumelanomyia*) *hayashii hayashii* Yamada, 1917 (Tanaka *et al.*, 1979).

Remarks. Yamada (1917: 72) stated, "...the above description [of adults] was based on 15 females and 7 males bred in the laboratory [in Tokyo] (June 1916)" (original in Japanese). Yamada's material of this species should be in carton box No. 59, according to the List. This box contained four males, three females, and four specimens of unknown sex of *C. hayashii*, all labeled "Shiba, Tokyo, 30–9–1915, S. Yamada." These specimens cannot belong to the type series, because the collection data do not agree with the data given in the original description. The type material of this species has not been located elsewhere in the collection. Sirivanakarn (1972) stated, "Dr. Sasa informs us that they [Yamada's specimens] are no longer available for lectotype selection."

Rachionotomyia bambusa Yamada, 1917: 61

Type material examined. Syntypes: 6♂ 4♀, each labeled "Shiba, Tokyo, 13–9–1915, S. Yamada" "Syntype, *Rachionotomyia bambusa* Yamada, 1917, Det. T. Kurihara, 2001." Each specimen has been fixed with a minute pin on a small elliptic card, and each card has been pinned with labels. Each card has a different hand-written number, "1", "2", "3", "4", "5", "6", "8", "9", "10", and "13", respectively. Syntypes "1", "2", "5", and "9" are females and syntypes "3", "4", "6", "8", "10", and "13" are males. Of these, two males ("8" and "10") and four females ("1", "2", "5", and "9") are intact. The genitalia are missing in syntype "3", the left antenna and left fore and hind legs are missing in syntype "4", all legs are missing on the left side in syntype "6", and the left antenna, left fore leg and right wing are missing in syntype "13".

Present taxonomic position. A valid species and subspecies, *Tripteroides* (*Tripteroides*) *bambusa bambusa* (Yamada, 1917) (Edwards, 1932; Tanaka *et al.*, 1979).

Remarks. Yamada (1917: 66) stated, "... the above description [of adults] was based on 12 females and 15 males reared in the laboratory (September, 1915) [in Tokyo]" (original in Japanese). According to the List, the specimens of this species should be in the carton box No. 72, where we found only three males and four females of this species labeled "Shiba, Tokyo, 22–9–1916, S. Yamada." The data do not agree and we cannot regard them as syntypes. In the general collection of mosquitoes from IID, however, we found six males and four females of this species, all labeled "Shiba, Tokyo, 13–9–1915" and placed under Yamada's hand-written identification label. We regard them as syntypes. The remaining syntypes (nine males and eight females) have not been found.

Theobaldia kanayamensis Yamada, 1932: 218.

Type material examined. Syntype: 1♀ labeled "Kanayama, Hokkaido, 23–8–1917, S. Yamada" "Syntype, *Theobaldia kanayamensis* Yamada, 1932, Det. T. Kurihara, 2001." It is in good condition.

Present taxonomic position. A junior synonym of *Culiseta* (*Culiseta*) *bergrothi* Edwards, 1921 (Danilov, 1976).

Remarks. Yamada (1932: 218) described the female of this species from "Kanayama, Hokkaido" without giving the number of specimens examined and without designating type specimens. In carton box No. 41, where the material of this species should be kept according to the List, there was one female labeled "Kanayama, Hokkaido, 23-8-1917, S. Yamada." This is regarded as a syntype. Sasa and Takahasi (1949) described the morphology of the male and larvae based on material collected in Rubeshibe, Hokkaido.

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