

Type Specimens of Mosquitoes (Diptera, Culicidae) Deposited in the National Science Museum, Tokyo

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Abstract Type specimens of 30 species-group taxa of mosquitoes preserved in the National Science Museum, Tokyo, are enumerated. They contain 1) the material from the former Institute for Infectious Disease (IID; currently the Institute of Medical Science), the University of Tokyo, including the types of the taxa described by M. Sasa and his collaborators in 1948–1952 (eight taxa), 2) the material from the former U. S. Army Medical Laboratory, Pacific, including the types of taxa described by K. Tanaka and his collaborators in 1973–1998 (19 taxa), and 3) the material from other sources (three taxa). For each taxon, type material is examined and its present taxonomic position is stated.

Key words: Diptera, Culicidae, type specimens, National Science Museum, Tokyo

Introduction

Systematic studies of mosquitoes in Japan have been made by various authors. The works by S. Yamada (1917–1932), M. Sasa and his collaborators (1948–1952), and K. Tanaka and his collaborators (1973–1998) are the most important contributions among them. Most of the type material of mosquitoes described by these authors is now housed in the National Science Museum, Tokyo (NSMT).

The present paper is the second and final part of the enumeration of the mosquito type specimens deposited in the NSMT. The first part (Kurihara, Kurahashi & Shinohara, 2001) dealt with the type material of the 19 species-group taxa described by S. Yamada, and the present paper deals with the rest of the collection. The type material included herein falls into the following three categories: 1) the material from the former Institute for Infectious Disease (IID; currently the Institute of Medical Science), the University of Tokyo, including the types of the taxa described by M. Sasa and his collaborators in

1948–1952 (eight taxa); 2) the material from the former U. S. Army Medical Laboratory, Pacific, including the types of taxa described by K. Tanaka and his collaborators in 1973–1998 (19 taxa); 3) the material from other sources (three taxa). The type material of 30 species-group taxa are thus dealt with in the following lines, arranged under the headings of the three categories. In each of the categories, the Anophelinae are listed first and then the Culicinae. Within each subfamily, genera and species are listed alphabetically following the original names, with notes on the type material and present taxonomic position of the species.

Enumeration of Taxa and Specimens

1. Material from the former Institute for Infectious Disease (IID; currently the Institute of Medical Science), the University of Tokyo

This collection was transferred from the IID to the NSMT in the 1970's with the collection of S. Yamada (Kurihara, Kurahashi & Shinohara,

2001). They are mainly the types of the taxa described by M. Sasa and his collaborators in 1948–1952. In this collection, many of the specimens were not adequately labeled individually but were kept in small carton boxes with glass lids (most of them 45×60×45 mm in size), which bore identification labels by the original author(s) (Fig. 3). These small carton boxes were stored in a wooden box or a drawer (Fig. 2), which were then housed in a wooden cabinet (Fig. 1) with the main part of Yamada's collec-

tion (Kurihara, Kurahashi & Shinohara, 2001). All the specimens originally stored in those boxes have been moved to the standard unit trays of the NSMT (Fig. 6). In some cases, specimens bear red or blue small labels without letters; the red label is attached to only one specimen for each sex in each species, whereas the blue labels are attached to one or more specimens of both sexes. It is assumed here that the red labels indicate a holotype and an allotype and the blue labels paratypes.



Figs. 1–6. — 1, A wooden cabinet, containing ten wooden boxes, where most of the type material was originally preserved, transferred from the former Institute for Infectious Disease, the University of Tokyo; 2, a wooden box or a drawer from the cabinet (second drawer from the top), containing 12 small carton boxes with glass lids; 3, examples of small carton boxes with glass lids, on which species name labels have been attached; 4, plastic slide containers and wooden boxes for storing pinned specimens, originally containing the material from the former U. S. Army Medical Laboratory, Pacific; 5, slides stored in a plastic container; 6, pinned specimens in unit trays, an example of the current condition of storage of pinned specimens.

Aedes (Aedes) asanumai Sasa, Kano & Takahasi, 1950: 637

Type material examined. Holotype (by monotypy): ♂ (pinned) bearing a red label without letters and a label, “Holotype, *Aedes (Aedes) asanumai* Sasa, Kano & Takahasi, 1950, Det. T. Kurihara, 2003”. It is in poor condition; the abdomen and two hind legs are missing.

Present taxonomic position. Tanaka, Mizusawa and Saugstad (1975b) and Knight (1978) correctly treated this taxon as a junior synonym of *Aedes (Aedes) esoensis* Yamada, 1921.

Remarks. Sasa, Kano and Takahasi (1950: 637) stated “The description of this species are [sic] based on a single male, collected by M. Sasa and H. Takahasi at Rubeshibe, Hokkaido”. In the former IID collection (Kurihara, Kurahashi & Shinohara, 2001), there was a small carton box labeled “*Aedes (Aedes) asanumai* Sasa, Kano and Takahasi, 1951 [sic], Hokkaido Rubeshibe, 1947, Sasa et Takahasi”. It contained a single male specimen, which agreed with the original description. This specimen is regarded as the holotype, though it has no data labels but has only a red label without any letters.

Aedes (Aedes) yamadai Sasa, Kano & Takahasi, 1950: 635

Type material examined. Holotype (original designation): ♂ (pinned) labeled “Shimoyubetsu, Hokkaido, 27–8–1917, S. Yamada” “Holotype, *Aedes (Aedes) yamadai* Sasa, Kano & Takahasi, 1950, Det. T. Kurihara, 2003”. It is in poor condition; the genitalia are removed (slide not found) and all legs except left mid one are missing. The paratype male has not been located. The allotype and the paratype females (two specimens) cannot be specified because three existing females agree with the data of the allotype and five existing females agree with the data of the paratypes (see below for more discussion).

Present taxonomic position. A valid species, *Aedes (Aedes) yamadai* Sasa, Kano & Takahasi, 1950 (Tanaka, Mizusawa & Saugstad, 1979).

Remarks. The type series includes the holotype (“male, collected by S. Yamada, at Shimoyubetsu, Hokkaido, in 1917), the allotype (“female, same as above”), and three paratypes (“1 female, from the same locality; 1 male and 1 female from Ochiai, Karafuto, 1919, all collected by S. Yamada”) (Sasa, Kano & Takahasi, 1950: 637). We found two males and six females of this species in two small boxes, No. 40 (this refers to *Ae. yamadai* according to the “List”, see Kurihara, Kurahashi & Shinohara, 2001) and another unnumbered box labeled “*Aedes (Aedes) yamadai*, Sasa, Kano and Takahasi 1951 [sic]”. The former box contained one male from “Kaizuka, Karafuto” and two females from Shimoyubetsu, and the latter box contained one male and one female from Shimoyubetsu, two females from Ochiai and one female from Kaizuka. All of them did not bear any type labels. Obviously, one male (in the box 40) and one female (in another box) from Kaizuka do not belong to the type series. Of the remaining specimens, the male in the unnumbered box perfectly agreed with the data given in the original description and is regarded as the holotype. The allotype female (from Shimoyubetsu) and two paratype females (one each from Shimoyubetsu and Ochiai) should be found in the remaining three females from Shimoyubetsu (in both of the boxes) and two females from Ochiai (in the unnumbered box), but we were not able to determine which belonged to the type series and which did not.

Yamada (1927) referred to this species under the name of *Aedes esoensis* Yamada var. *flavus* Yamada, a nomen nudum (see Kurihara, Kurahashi & Shinohara, 2001).

Aedes (Finlaya) bunanoki Sasa & Ishimura, 1951: 103

Type material examined. Holotype not located. Paratypes: 2♂4♀ (pinned) labeled “Paratype, *Aedes (Finlaya) bunanoki* Sasa & Ishimura, 1951, Det. T. Kurihara, 2003”.

Present taxonomic position. A junior synonym of *Ochlerotatus (Finlaya) oreophilus* (Ed-

wards, 1916) (Danilov, 1977; Tanaka, Mizusawa & Saugstad, 1979; Reinert, 2000).

Remarks. Sasa and Ishimura (1951) described this species on the basis of the holotype male, allotype female, and three male and four female paratypes, all collected at Bonjusan, Aomori, northern Honshu, by K. Ishimura. The holotype and allotype were collected on August 7, 1950, while the date of capture was not given for the paratypes. The holotype is a male specimen “with larval and pupal skin, and dissected genitalia” (Sasa & Ishimura, 1951: 107). We found two males and four females of this species in a box, whose top bears the label “*Aedes (Finlaya) bunanoki* Sasa et Ishimura”; however, the specimens have no labels. These specimens should belong to the type series, but the two males are not the holotype because their genitalia have not been dissected. The six specimens are regarded as paratypes.

***Aedes (Finlaya) kobayashii* Nakata, 1956: 135**

Type material examined. Paralectotypes (designated by Nakata, 1959): 1 ♀ (pinned, with associated slides of pupal and larval skins) labeled “*Aedes kobayashii* ♀ coll. by Nakata, May 5, 1955 at Mt. Kurama” “Paratype No. 6 with pupal and larval skin” “Paralectotype, *Aedes (Finlaya) kobayashii* Nakata, 1956, Det. T. Kurihara, 2003”; 1 ♂ (pinned, with associated slides of pupal and larval skins) labeled “*Aedes kobayashii* ♂ coll. by Nakata, May 5, 1955 at Mt. Kurama” “Paratype No. 1 with pupal and larval skin” “Paralectotype, *Aedes (Finlaya) kobayashii* Nakata, 1956, Det. T. Kurihara, 2003”; 1 ♂ (one slide of genitalia only) labeled “*Aedes kobayashii*, male genitalia, Paratype No. 10” “Paralectotype, *Aedes (Finlaya) kobayashii* Nakata, 1956, Det. T. Kurihara, 2003”.

Present taxonomic position. A junior synonym of *Ochlerotatus (Finlaya) alktorovi* Stackelberg, 1943 (Danilov, 1977; Reinert, 2000).

Remarks. This species was first described in an abstract of a paper presented in a society meeting (Nakata, 1956). Though the description

was short and only in Japanese, the name is perfectly available under the Code (International Commission on Zoological Nomenclature, 1999). Three years later, Nakata (1959) gave a detailed redescription of the species in English and listed a holotype, an allotype, and paratypes. However, this should be regarded as a lectotype designation, because Nakata (1956) did not designate a holotype in the original description. Nakata (1956) mentioned that his material was obtained in May, 1955, whereas Nakata (1959) included specimens obtained in 1956 as the “allotype” and “paratypes”. We believe that the material collected in 1956 do not belong to the type series. In the NSMT, there are two pairs of adults, one pair (No. 1 and No. 6 with associated slides of pupal and larval skins) collected in 1955 and the other (no. 5 and no. 8) collected in 1956, and a slide of genitalia (No. 10, collected in 1955), all designated as “paratypes” by Nakata (1959). The pair of the adults collected in 1955 (No. 5 and 8) with associated slides and the slide of genitalia (No. 10) are paralectotypes. These specimens were initially kept in the IID. The lectotype should be preserved in Kyoto Prefectural University, Kyoto (formerly Saikyo University).

***Aedes (Finlaya) koreicoides* Sasa, Kano & Hayashi, 1950: 627**

Type material examined. Holotype (original designation): ♂ (pinned) labeled “Jozankei, Hokkaido, 21–8–1917, S. Yamada” “*Aedes koreicus* Edwards, Det. S. Yamada” [red label without letters] “Holotype, *Aedes (Finlaya) koreicoides* Sasa, Kano & Hayashi, 1950, Det. T. Kurihara, 2003”. The holotype lacks the genitalia, the right mid leg, and the tarsi of the right fore and hind legs. Allotype: ♀ (pinned) labeled “Bibai, Hokkaido, 21-8-1919, S. Yamada” “*Aedes koreicus* Edwards, Det. S. Yamada” [red label without letters] “Allotype, *Aedes (Finlaya) koreicoides* Sasa, Kano & Hayashi, 1950, Det. T. Kurihara, 2003”. Paratypes: 1 ♂ 1 ♀ (pinned) labeled “Jozankei, Hokkaido, 21–8–1917, S. Yamada” “*Aedes koreicus* Edwards, Det. S. Yamada” [blue

label without letters] “Paratype, *Aedes (Finlaya) koreicoides* Sasa, Kano & Hayashi, 1950, Det. T. Kurihara, 2003”.

Present taxonomic position. A valid species, *Ochlerotatus (Finlaya) koreicoides* (Sasa, Kano & Hayashi, 1950) (Reinert, 2000).

Remarks. The type series is represented by the holotype (“male, collected by S. Yamada at Jozankei, Hokkaido, on 21 August, 1917”), the allotype (“female, collected by S. Yamada at Bibai, Hokkaido, on 21 August, 1919”), and seven male and five female paratypes from Jozankei (three males and four females collected by S. Yamada on 21 August, 1917) and Bibai (four males and one female collected by S. Yamada on 21 August, 1919) (Sasa, Kano & Hayashi, 1950). In NSMT, we found two males and one female from Jozankei (“21–8–1917, S. Yamada”; one male with a red label without letters and with the genitalia removed, others with blue labels and not dissected) and two males and two females from Bibai (“21–8–1919, S. Yamada”), all in a small box, whose top bears an identification label, “*Aedes (Finlaya) koreicoides* Sasa, Kano et Hayashi 1951 [sic]” We regard the male specimen from Jozankei with a red label and without genitalia as the holotype, because Sasa, Kano and Hayashi (1950) described the genitalia of the male holotype after dissection. We also regard the female from Bibai with a red label as the allotype and the remaining specimens with blue labels (two males and one female from Bibai and one male and one female from Jozankei) as the paratypes.

Aedes (Finlaya) nippononiveus Sasa & Nakahashi, 1952: 258

Type material examined. Holotype (original designation): ♂ (pinned) with a label, “*Aedes niveus*, Oimachi 2 [hand-writing by R. Kano]”, a small red label without letters, and a label, “Holotype, *Aedes (Finlaya) nippononiveus* Sasa & Nakahashi, 1952, Det. T. Kurihara, 2003”. It is in good condition but the associated slides (genitalia and larval and pupal skins) have not been

located.

Present taxonomic position. A junior synonym of *Ochlerotatus (Finlaya) nipponicus* (Lacasse & Yamaguti, 1948) (Nakata, 1962; Sasa & Kamimura, 1971; Tanaka, Mizusawa & Saugstad, 1979).

Remarks. Sasa and Nakahashi (1952: 263) designated the holotype (“male, associated with larval and pupal skin, and mounted genitalia, collected by Dr. R. Kano at Oimachi, Tokyo, June 15, 1948”) and five paratypes (“three male and two females, from Tokyo”). Loan records in NSMT show that “three adults and five slides (one male terminalia, four larval skin)” of this species were loaned to the late K. Knight through Y. M. Huang in 1969 but were not returned. On our request, P. Rueda of the Smithsonian Institution, Washington, D.C., kindly searched for the specimens in the collections of the Smithsonian Institution, the North Carolina State University (where Knight worked), and the Natural History Museum, London, but found only one pinned male specimen without genitalia in the Smithsonian collection. The specimen was returned to us through the courtesy of T. V. Gaffigan. No other specimens have been located in the NSMT. The male specimen has a label, “*Aedes niveus*, Oimachi 2”, hand-written by the late R. Kano, and a small red label without letters. We believe it is reasonable to regard this male specimen as the holotype, because the specimen agrees with the data of the holotype given in the original description and, as noted in the introduction, the red label should indicate a holotype.

Culex (Barraudius) modestus inatomii Kamimura & Wada, 1974: 13

Type material examined: Holotype (original designation): ♀ (pinned) labeled “Japan: Honshu, Okayama Pref., Kojima City, Utoma (Brackish Swamp), 22. vi. 1968, Y. Wada leg., Dpt. Parasitology, IID, Univ. Tokyo” “*Culex (Barraudius) modestus inatomii* Kamimura et Wada, 1974, Det. K. Kamimura et Y. Wada” “Holotype [green label]”. The holotype has the head, the left fore

and mid legs and the right mid tarsus missing; otherwise it is in good condition. Allotype ♂ and 5 ♀ paratypes, all pinned, with the same data.

Present taxonomic position. A valid species, *Culex (Barraudius) inatomii* Kamimura & Wada, 1974. Originally described as a subspecies of *Culex (Barraudius) modestus*. Lee and Lee (1975: 59) and Tanaka, Mizusawa & Saugstad (1979: 234) treated it as a distinct species.

Remarks. The type series consists of the holotype (female with associated larval and pupal skins), the allotype (male with associated larval and pupal skins and genitalia slides), and 31 paratypes (five females, six males, and 20 larvae), all collected by Y. Wada from brackish swamp at Utoma, Kojima City, Okayama Prefecture, on June 22, 1968. The holotype, allotype, and five female paratypes are represented in NSMT, while six male paratypes and the 20 larval specimens as well as the larval and pupal skins and the genitalia slides have not been located.

***Culex (Neoculex) rubensis* Sasa & Takahasi, 1948: 51**

Type material examined. Syntypes: 1 ♂ 2 ♀ (in a glass tube) labeled "*Culex rubensis*, Hokkaido, Rubeshibe, 1947, Sasa & Takahasi leg., Type, 1 ♂ 2 ♀" "Syntypes, *Culex (Neoculex) rubensis* Sasa & Takahasi, 1948, Det. T. Kurihara, 2003" (in good condition); 1 ♂ (pinned) labeled "C. r. 1 Gen." "Locality: Hokkaido, Rubeshibe, *Culex rubensis*, 1947, August, Sasa & Takahasi leg." "Syntype, *Culex (Neoculex) rubensis* Sasa & Takahasi, 1948, Det. T. Kurihara, 2003" (genitalia missing); 1 ♀ (pinned) labeled "Rube, 8" "Locality: Hokkaido, Rubeshibe, *Culex rubensis*, 1947, August, Sasa & Takahasi leg." "Syntype, *Culex (Neoculex) rubensis* Sasa & Takahasi, 1948, Det. T. Kurihara, 2003" (mouth parts and a front leg missing); 1 specimen (pinned; sex unknown) labeled "K. 9.1" "Locality: Hokkaido, Kamioboro, *Culex rubensis*, 1947, August, Sasa & Takahasi leg." "Syntype, *Culex (Neoculex) rubensis* Sasa & Takahasi, 1948, Det. T. Kuri-

hara, 2003" (head and left hind leg missing); 1 specimen (pinned; sex unknown) labeled "K. 9.2" "Locality: Hokkaido, Kamioboro, *Culex rubensis*, 1947, August, Sasa & Takahasi leg." "Syntype, *Culex (Neoculex) rubensis* Sasa & Takahasi, 1948, Det. T. Kurihara, 2003" (antennae and parts of legs missing).

Present taxonomic position. A valid species, *Culex (Neoculex) rubensis* Sasa & Takahasi, 1948. (Tanaka, Mizusawa & Saugstad, 1979).

Remarks. Sasa and Takahasi (1948), in a paper in Japanese, described this species based on the specimens of adults and larvae collected at Rubeshibe, Akan, and Kamioboro, Hokkaido in August 1947. The number and depository of the specimens were not given in the original description. Later, the same authors, in a paper in English (Sasa & Takahasi, 1949), redescribed the species and noted "Type locality: Rubeshibe, Hokkaido, Japan" and "Types: in Government Institute for Infectious Diseases, Tokyo". We found three adult specimens in a glass tube and four pinned adult specimens from Rubeshibe and Kamioboro. They are regarded as syntypes. We also found three specimens labeled "Kanayama, Hokkaido on 28-8-1919, coll. S. Yamada" and identified probably by Sasa with *Cx. rubensis* in the box 46, which, according to the "List" (Kurihara, Kurahashi & Shinohara, 2001) refers to *Culex (Neoculex) rubensis* Sasa & Takahasi. Sasa and Takahasi (1948, 1949) did not refer to these specimens.

2. Material from the former U. S. Army Medical Laboratory, Pacific

Most of the taxa in this category were described by K. Tanaka and his collaborators in the monograph (Tanaka, Mizusawa & Saugstad, 1979), which contained the results of the large project carried out in the former U. S. Army Medical Laboratory, Pacific, during the years 1969–1976. This collection was perfectly organized by the original authors, all specimens being adequately labeled, when it was moved to NSMT in the early 1980s. The pinned adult specimens were kept in wooden boxes and slide-mounted

specimens were stored in plastic containers (Fig. 4–5). The pinned specimens are now kept in the standard unit trays (Fig. 6), whereas the slides are stored in their original containers (Fig. 5). The slide-mounted larval and pupal skins are still in the hands of the original author, but they will be eventually deposited with the other material in the NSMT (K. Tanaka, pers. comm.). In the original descriptions and on the labels with the specimens, the collection data were given as codes (e.g., “I-0250”), which were tabulated on pp. 923–976 in Tanaka, Mizusawa and Saugstad (1979). These codes are also used in the following lines.

Aedes (Aedes) sasai Tanaka, Mizusawa & Saugstad, 1975b: 41

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia) labeled “11 [pink label]” “2922 [yellow label]” “D-1156, Japan, Shizuoka Pref., nr. Umegashima” “(Ground pool), May 30, 1972, coll. K. Mizusawa and S. Hayashida” “Holotype [red label]” “*Aedes (Aedes) sasai* Tanaka & al., Det. 197” “Mosq. Japan & Korea, Tanaka Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4134”. In excellent condition. Paratypes: 4♂ (D-1156), pinned, with associated slides of genitalia (4), head (1), wings (1) and legs (1); 2♀ (D-1156), pinned, with associated slides of genitalia (1), head (1), wings (1) and legs (1); 3♀ (D-1156), pinned; 1♀ (D-1156-2), pinned, with an associated slide of genitalia; 3 slides of larvae (D-1156).

Present taxonomic position. A valid species, *Aedes (Aedes) sasai* Tanaka, Mizusawa & Saugstad, 1975 (Knight, 1978; Tanaka, 2000a).

Aedes (Finlaya) japonicus amamiensis Tanaka, Mizusawa & Saugstad, 1979: 312

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia) labeled “22325 [yellow card]” “I-0261/-L1” “coll. K. Mizusawa and M. Nishikawa, Reared-tree-hole” “Ryukyu Islands,

Amami Oshima, Mt. Yuwan, 3. July 1970” “Holotype [red card]” “*Aedes (Finlaya) japonicus amamiensis* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4085”. The holotype is in excellent condition. Paratypes: 1♂ (I-0241-w), pinned; 3♂1♀ (I-0250), pinned; 2♂ (I-0293), pinned; 1♀ (I-0293-L1), pinned; 1♂ (I-0293-L2), pinned; 1♀ (I-0296), pinned; 1♀ (I-0296-L2), pinned; 1♂ (I-0241(6)), slides of genitalia, head, wings and legs only; 1♂ (I-0250), slides of genitalia, head and wings only; 1♂ (I-0253(4)), pinned, with associated slides of genitalia, head, wings and legs; 2♂ (I-0293), pinned, with associated slides of genitalia (1), heads (2) and legs (2); 1♂ (I-0293), slide of genitalia only; 1♂ (I-0293-L5), pinned, with an associated slide of wings; 1♂ (I-0296), pinned, with an associated slide of wings; 1♂ (I-0293-L7), pinned, with an associated slide of wings; 1♀ (I-0250), pinned, with an associated slide of wings; 1♀ (I-0250-L63), pinned, with an associated slide of genitalia; 1♀ (I-0253(2)), pinned, with an associated slide of wings; 2♀ (I-0293), pinned, with 2 associated slides of wings; 3♀ (I-0296), slides of genitalia (1), wings (2) and legs (2) only.

Present taxonomic position. A valid subspecies, *Ochlerotatus (Finlaya) japonicus amamiensis* (Tanaka, Mizusawa & Saugstad, 1979) (Reinert, 2000).

Aedes (Finlaya) japonicus yaeyamensis Tanaka, Mizusawa & Saugstad, 1979: 313

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia) labeled “22326 [yellow card]” “K-1756-27” “Ryukyu, Ishigaki Is., nr. Yonehara, 13. XII. 1973, Tree hole, Mizusawa and Watanabe” “Holotype [red card]” “*Aedes (Finlaya) japonicus yaeyamensis* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969-70, US Army Med. Lab. Pac.” “NSMT-I-Dip 4095”. The holotype is in excellent condition. Paratypes: 1♀ (K-0914), pinned; 1♀ (K-

1576-29), pinned; 1 ♀ (K-0611-18), pinned; 2 ♂1 ♀ (K-0627), pinned; 1 ♂1 ♀ (K-0631), pinned; 1 ♂ (K-0611), pinned; 2 ♂ (K-0702), pinned; 1 ♂ (K-2059-14), pinned; 1 ♂ (K-1754-30), pinned; 1 ♂ (K-1754), pinned; 1 ♂ (K-1754-22), slide-mounted; 1 ♂ (K-1754-26), slide-mounted; 1 ♀ (K-1754-43), slide-mounted; 1 ♀ (K-1754-90), slide-mounted; 3 ♂ (K-0575), pinned, with associated slides of genitalia (2), heads (2), wings (3) and legs (3); 1 ♂ (K-0914), pinned, with associated slides of head and wings; 1 ♂ (K-1772-36), pinned, with associated slides of genitalia and wings; 1 ♀ (K-0568), pinned, with associated slides of wings and legs; 2 ♀ (K-0575), pinned, with associated slides of head (1), wings (2) and legs (1); 1 ♀ (K-0914), pinned, with an associated slide of wings.

Present taxonomic position. A valid subspecies, *Ochlerotatus (Finlaya) japonicus yaeyamensis* (Tanaka, Mizusawa & Saugstad, 1979) (Reinert, 2000).

***Aedes (Finlaya) nishikawai* Tanaka, Mizusawa & Saugstad, 1979: 356**

Type material examined. Holotype (original designation): ♂ (pinned, with associated slides of genitalia, wings and legs) labeled “12 [pink label]” “19798 [yellow label]” “I-1843-x” “Ryukyu, Amamioshima, 25. vii. 1974, Tree hole, Saugstad and Mizusawa” “Holotype [red label]” “*Aedes (Finlaya) nishikawai* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4097”. In excellent condition, but the left fore leg is missing. Paratypes: 1 ♂ (I-1832), mounted on 9 slides; 1 ♂ (I-1843-5), slide-mounted; 2 ♀ (I-0248), pinned, with associated slides of genitalia (1), heads (2), wings (2) and legs (2); 1 ♀ (I-0303), pinned, with associated slides of head and wings; 1 ♀ (I-1843-81), slides of wings and legs only; 1 ♀ (I-1890), pinned, with associated slides of genitalia, heads (2), wings and legs; 1 ♀ (I-1890-56), slide-mounted; 2 slides of larvae (I-1832); 1 slide of larva (I-0279).

Present taxonomic position. A valid species, *Ochlerotatus (Finlaya) nishikawai* (Tanaka, Mizusawa & Saugstad, 1979) (Reinert, 2000).

***Aedes (Neomacleaya) atriisimilis* Tanaka & Mizusawa, 1973: 625**

Type material examined. Holotype (original designation): ♂ (with an associated slide of genitalia) labeled “Photo [yellow label]” “2290” “K-018” “coll. K. Mizusawa and M. Nishikawa collected W, net, Ryukyu Islands, Iriomote, Itokawa Rindo, May 8, 1970” “Holotype [red label]” “*Aedes (Neomacleaya) atriisimilis*” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969-1976, US Army Med. Lab. Pac.” “NSMT-1-Dip/No.4158”. In good condition, but the mid legs and the right hind leg are missing. The label on the slide reads “*Aedes (Verrallina) atriisimilis*”. Paratypes: 1 ♀ (K-1037), pinned; 2 ♂ (K-0181), pinned, with associated slides of genitalia (3), head (1), wings (1) and legs (4); 1 ♂ (K-1023), pinned, with associated slides of head, wings and legs; 1 ♀ (K-0181), pinned, with associated slides of wings and legs; 1 ♀ (K-0584), pinned, with an associated slide of genitalia; 1 ♀ (K-0730), pinned, with an associated slide of head; 1 ♀ (K-1038), pinned, with associated slides of wings and legs; 3 slides of larvae (K-1023); 1 slide of larva (K-1023), with an associated slide of mandibles.

Present taxonomic position. A valid species, *Verrallina (Neomacleaya) atriisimilis* Tanaka & Mizusawa, 1973 (Knight, 1978; Reinert, 1974, 1999). Tanaka (2003a) used the original combination, *Aedes (Neomacleaya) atriisimilis*.

***Aedes (Neomacleaya) iriomotensis* Tanaka & Mizusawa, 1973: 633**

Type material examined. Holotype (original designation): ♀ (pinned) labeled “8 [pink label]” “K-0906” “Ryukyu Islands, Iriomote Is., Funaura, 27 October, 1971” “coll. Mizusawa, S. Shinonaga & T. Kikuchi, (collected-net)” “Holotype [red label]” “*Aedes (Neomacleaya) iriomotensis* Det. 197” “Mosq. Japan & Korea, Tanaka, Mizu-

sawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” In excellent condition. Paratypes: 15 ♀ (K-1102), pinned; 1 ♀ (K-1021), pinned; 3 ♀ (K-0919), pinned; 2 ♀ (K-0913), pinned; 8 ♀ (K-0906), pinned; 1 ♀ (K-0906), pinned, with an associated slide of genitalia; 4 ♀ (K-1102), pinned, with associated slides of genitalia (2), heads (2), wings (2) and legs (2); 6 ♀ (K-1102), pinned, with 6 associated slides of genitalia. The label on the slides reads “*Aedes (Verrallina) iriomotensis*”.

Present taxonomic position. A valid species, *Verrallina (Verrallina) iriomotensis* Tanaka & Mizusawa, 1973 (Reinert, 1999).

***Aedes (Ochlerotatus) akkeshiensis* Tanaka,**
1998: 215

Type material examined. Holotype (original designation): ♂ (pinned, with associated slides of genitalia, classipette, wings and legs) labeled “23959 [yellow label]” “A7b4-8” “Japan, Hokkaido, Akkeshi, Bekambeushi, May 5, 77, Coll. Kazuo Tanaka” “Holotype, *Aedes (Ochlerotatus) akkeshiensis* Tanaka, 1998”. In excellent condition. Paratypes: 1 ♀ (A-7c0-4), pinned; 1 ♀ (A-7c0-5), pinned; 1 ♀ (A-7c0-18), pinned; 1 ♀ (A-7c0-19), pinned; 1 ♂ (A-7b4-5), pinned; 1 ♂ (A-7b5-1), pinned; 1 ♂ (A-7b9-5), pinned; 1 ♂ (A-7c0-24), pinned; 1 ♀ (A-7c0-3), pinned, with slides of wings and legs; 1 ♀ (A-7c0-17), pinned, with slides of wings and legs; 1 ♀ (A-7b6-8), pinned, with slides of wings and legs; 1 ♂ (A-7c0-20), pinned, with slides of wings, legs, mouth parts and head; 1 ♂ (A-7b6-1), pinned, with slides of wings, legs, genitalia and classipette; 1 ♂ (A-7b6-3), pinned, with slides of wings, legs, genitalia and head; 1 ♂ (A-7b5-4), pinned, with slides of wings, legs, genitalia and head; 1 ♂ (A-7b5-5), pinned, with slides of wings, legs, genitalia and classipette.

Present taxonomic position. A valid species, *Ochlerotatus (Ochlerotatus) akkeshiensis* Tanaka, 1998 (Reinert, 2000).

Aedes (Ochlerotatus) hexodontus hokkaidensis

Tanaka, Mizusawa & Saugstad, 1979: 286

Type material examined. Holotype (original designation): ♂ (pinned, with associated slides of genitalia, wing and legs) labeled “19124 [yellow label]” “A-1808-1” “Reared, Gr. pool” “Japan, Hokkaido, Onuma koen, iv. 30–1959, 9130-D-1, K. Hattori” “Holotype [red label]” “*Aedes (Ochlerotatus) hexodontus hokkaidensis* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4065”. In excellent condition. Paratypes: 1 ♂ (A-1808-2), pinned, with associated slides of genitalia, head, wings and legs; 1 ♀ (A-1808-16), pinned, with associated slides of genitalia, wings and legs; 1 ♀ (A-1808-21), pinned, with associated slides of genitalia, head, wings and legs; 1 ♀ (A-1808-43), pinned, with associated slides of genitalia, head, wings and legs; 1 ♀ (A-1808-48), pinned, with associated slides of wings and legs.

Present taxonomic position. A valid species, *Ochlerotatus (Ochlerotatus) hokkaidensis* (Tanaka, Mizusawa & Saugstad, 1979) (Reinert, 2000).

Aedes (Ochlerotatus) impiger daisetsuzanus

Tanaka, Mizusawa & Saugstad, 1979: 271

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia) labeled “2130 [yellow label]” “A-0211-5” “Japan, Hokkaido, Daisetsu Mts., Yukomanbetsu, 7 June, 1970” “coll. K. Tanaka, K. Mizusawa & M. Nishikawa, (Reared-snow water)” “Holotype [red label]” “*Aedes (Ochlerotatus) impiger daisetsuzanus* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4060”. In excellent condition. Paratypes: 4 ♂ (A-0211), pinned; 5 ♂ (A-0211), pinned, associated slides of genitalia (4), heads (3), wings (2) and legs (2); 3 ♀ (A-0211), pinned, with associated slides of genitalia (3), wings (3) and legs (2); 13 slides of larvae (A-0211).

Present taxonomic position. A valid sub-

species, *Ochlerotatus (Ochlerotatus) impiger daisetsuzanus* (Tanaka, Mizusawa & Saugstad, 1979) (Reinert, 2000).

Aedes (Stegomyia) flavopictus miyarai Tanaka, Mizusawa & Saugstad, 1979: 390

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia) labeled “22323 [yellow label]” “K-0638-18” “coll. K. Mizusawa and M. Nishikawa, Reared-Tree Hole” “Ryukyu Island, Ishigaki Is., Mt. Banna, 22 April, 1971” “Holotype [red label]” “*Aedes (Stegomyia) flavopictus miyarai* Tanaka & al., Det.197” “Mosq. Japan & Korea, Tanaka, Mizusawa, Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4111”. In excellent collection. Paratypes: 1 ♀ (K-1399-15), pinned; 1 ♀ (K-2034-16), pinned; 1 ♀ (K-1411-17), pinned; 1 ♀ (K-1411-15), pinned; 1 ♀ (K-1417), pinned; 1 ♀ (K-0573), pinned; 1 ♂2 ♀ (K-0638), pinned; 1 ♀ (K-1399), pinned; 5 ♂5 ♀ (K-0566), pinned; 3 ♂(K-1399-g), pinned; 1 ♂ (K-1411-11), pinned; 1 ♀ (K-0567), pinned; 2 ♂ (K-1411), pinned; 1 ♂ (K-1399), pinned, with 2 associated slides of genitalia; 1 ♂ (K-1411), pinned, with associated slides of wings and legs; 1 ♂ (K-1411-39), pinned, with an associated slide of genitalia; 1 ♀ (K-1399), pinned, with associated slides of head, wings and legs; 1 ♀ (K-1411), pinned, with associated slides of head, wings and legs; 1 ♀ (K-1411-16), pinned, with associated slides of wings and legs.

Present taxonomic position. A valid subspecies, *Aedes (Stegomyia) flavopictus miyarai* Tanaka, Mizusawa & Saugstad, 1979 (Ward, 1984; Tanaka, 2000b).

Aedes (Stegomyia) wadai Tanaka, Mizusawa & Saugstad, 1979: 400

Type material examined. Holotype (original designation): ♂ (pinned, with associated slides of genitalia, right wing and legs) labeled “11 [pink label]” “7356 [yellow label]” “N-1510” “Ogasawara Islands, Chichijima, Kitafukurozawa, 26. v. 1973, coll. S. Shinonaga” “Holotype [red

label]” “*Aedes (Stegomyia) wadai* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4113”. In excellent condition, but the right mid leg is missing. Paratypes: 1 ♀ (N-1507), pinned; 1 ♀ (N-1563), pinned; 1 ♂1 ♀ (N-1567), pinned; 1 ♂ (N-1715), pinned; 2 ♂ (N-1715-r), pinned; 1 ♂ (N-1715-49), pinned; 1 ♂ (N-1715-51), pinned; 1 ♂ (N-1560), pinned, with an associated slide of genitalia; 1 ♂ (N-1567), pinned, with associated slides of genitalia and legs; 3 ♂ (N-1715), pinned, with associated slides of genitalia (4), head (1), wings (3) and legs (2); 1 ♂ (N-1715-n), pinned, with associated slides of genitalia, head, wings and legs; 1 ♂ (N-1715-41), mounted on 2 slides; 1 ♂ (N-1715-1), mounted on a slide; 1 ♂ (N-1715-s), mounted on a slide; 1 ♀ (N-1510), pinned, with an associated slide of wings; 1 ♀ (N-1512), pinned, with associated slides of head, wings and legs; 4 ♀ (N-1715), pinned, with associated slides of genitalia (3), wings (4) and legs (3); 1 ♀ (N-1715-43), pinned, with an associated slide of wings; 1 ♀ (N-1715-54), mounted on a slide; 1 ♀ (N-1715-l), mounted on a slide; 1 ♀ (N-1715-s), mounted on a slide; 1 ♀ (N-1715), mounted on a slide; 19 slides of larvae (N-1715).

Present taxonomic position. A valid species, *Aedes (Stegomyia) wadai* Tanaka, Mizusawa & Saugstad, 1979 (Ward, 1984; Tanaka, 2000b).

Culex (Eumelanomyia) hayashii ryukyuanus

Tanaka, Mizusawa & Saugstad, 1979: 190

Type material examined. Holotype (original designation): ♂ (pinned, with associated slides of genitalia, wings and legs) labeled “21179 [yellow label]” “K-0696-10” “Ryukyu Islands, Iriomote Is., near Shirahama, 19. April. 1971” “Coll. K. Mizusawa & M. Nishikawa, Reared-Blocked stream” “Holotype [red label]” “*Culex (Eumelano.) hayashii ryukyuanus* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army. Med. Lab. Pac.” “NSMT-I-Dip 4046”. In excellent condition. Paratypes: 3 ♂ (K-1010), pinned, with asso-

ciated slides of genitalia (3), legs (3), heads (3), and wings (3); 1 ♂ (K-2188), pinned, with associated slides of genitalia and wings; 1 ♂ (K-0643-21), pinned, with associated slides of genitalia, legs, and wings; 1 ♂ (K-0643-28), pinned, with associated slides of genitalia, legs, and wings; 1 ♂ (K-0642-14), pinned, with associated slides of genitalia, legs, wings, and head.

Present taxonomic position. A valid subspecies, *Culex (Eumelanomyia) hayashii ryukyuanus* Tanaka, Mizusawa & Saugstad, 1979 (Ward, 1984).

Culex (Lutzia) shinonagai Tanaka, Mizusawa & Saugstad, 1979: 245

Type material examined. Holotype (original designation): ♂ (pinned, with associated slides of genitalia, wing, and legs) labeled “16 [yellow label]” “7354 [yellow label]” “N-1507” “Ogasawara Island, Chichijima, Kitafukurozawa, 19. v. 1973, Net, Coll. S. Shinonaga” “Holotype [red label]” “*Culex (Lutzia) shinonagai* Tanaka & al. Det. 197, Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4050”. In excellent condition. Paratypes: 2 ♂ (N-1507), pinned, with associated slides of genitalia (1), head (1), wings (1), and legs (3); 1 ♂ (N-1564), pinned, with an associated slide of head; 1 ♂ (N-1716-3), pinned, with associated slides of wings and legs.

Present taxonomic position. A valid species, *Lutzia (Insulalutzia) shinonagai* (Tanaka, Mizusawa & Saugstad, 1979) (Tanaka, 2003b).

Heizmannia kana Tanaka, Mizusawa & Saugstad, 1979: 249

Type material examined. Holotype (original designation): ♀ (with an associated slide of genitalia) labeled “1219 [yellow label]” “I-0303” “Coll. K. Mizusawa and M. Nishikawa (Net)” “Ryukyu Islands, Amami Oshima, Mt. Yuwan, 1 July, 1970” “Holotype [red label]” “*Heizmannia (Heizman.) kana* Tanaka & al., Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-

Dip 4054”. In excellent condition. Paratypes: 1 ♀ (I-0304-1), pinned, with an associated slide of wings; 1 ♀ (I-0304-2), pinned, with an associated slide of legs.

Present taxonomic position. A valid species, *Heizmannia kana* Tanaka, Mizusawa & Saugstad, 1979 (Ward, 1984).

Topomyia (Suaymyia) yanbarensis Miyagi, 1976, 201

Type material examined. Paratypes: 1 ♂ labeled “Paratype” “21459” “J-2205” “Ryukyus, Okinawa Is., 10. VII. 1975, I. Miyagi” “*Topomyia (S.) yanbarensis*, Yona, Okinawa, 75710-4 ♂”; 1 ♀ labeled “Paratype” “21460” “J-2206” “Ryukyus, Okinawa Is., 20. VIII. 1975, I. Miyagi” “*Topomyia (S.) yanbarensis*, Yona, Okinawa, 75826, ♀”.

Present taxonomic position. A valid species, *Topomyia (Suaymyia) yanbarensis* Miyagi, 1976, 201 (Tanaka, Mizusawa & Saugstad, 1979).

Remarks. The type material of this species was initially deposited in Hokkaido University, Sapporo, the Natural History Museum, London, and the U. S. National Museum, Washington, D.C. (Miyagi, 1976). The paratypes listed above came to the NSMT with the collection of the former U. S. Army Medical Laboratory, Pacific.

Tripteroides (Tripteroides) bambusa yaeyamensis Tanaka, Mizusawa & Saugstad, 1979: 481

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia) labeled “22393 [yellow label]” “K-0637-13” “Coll. K. Mizusawa and M. Nishikawa, Reared-Tree Hole” “Ryukyu Islands, Ishigaki Is., Mt. Banna, 22. April, 1971” “Holotype [red label]” “*Tripteroides (Tript.) bambusa yaeyamensis* Tanaka & al. Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4220”. In excellent condition. Paratypes: 1 ♂ (K-0561), pinned; 1 ♂1 ♀ (K-0584), pinned; 1 ♂ (K-0727), pinned; 1 ♂1 ♀ (K-0726), pinned; 1 ♂ (K-

0154), pinned; 1 ♂ (K-0175), pinned; 1 ♂ (K-0923), pinned; 1 ♂ (K-0630), pinned; 1 ♂ (K-2584), pinned; 1 ♂ (K-1384-13), pinned; 1 ♀ (K-0693), pinned; 1 ♀ (K-1613), pinned; 1 ♀ (K-2584), pinned; 1 ♀ (K-0637), pinned; 1 ♀ (K-0919), pinned; 2 ♀ (K-1603), pinned; 1 ♀ (K-0135), pinned; 1 ♂ (K-1736-28), slide-mounted; 1 ♂ (K-1736-41), slide-mounted; 1 ♂ (K-2052-50), slide-mounted; 1 ♀ (K-1736-2), slide-mounted; 1 ♀ (K-1736-36), slide-mounted; 1 ♂ (K-0135), pinned, with associated slides of genitalia, wings and legs; 1 ♂ (K-0175), slide of head only; 1 ♂ (K-0561), pinned, with an associated slide of head; 3 ♂ (K-0584), pinned, with 4 associated slides of genitalia; 1 ♂ (K-1603-c), pinned, with an associated slide of head; 1 ♀ (K-0175), slide of wings only; 1 ♀ (K-0561), pinned, with associated slides of genitalia and wings; 1 ♀ (K-0568-02), pinned, with an associated slide of genitalia; 1 ♀ (K-0574), pinned, with an associated slide of wings; 1 ♀ (K-0923), pinned, with associated slides of head, wings and legs; 1 ♀ (K-0923), slide of wings only; 1 ♀ (K-1075), pinned, with associated slides of head, wings and legs; 4 slides of larvae (K-1453); 2 slides of larvae (K-1427); 2 slides of larvae (K-1357); 4 slides of larvae (K-2195).

Present taxonomic position. A valid subspecies, *Tripteroides (Tripteroides) bambusa yaeyamensis* Tanaka, Mizusawa & Saugstad, 1979 (Ward, 1984).

Uranotaenia (Pseudoficalbia) novobscura ryukyuana Tanaka, Mizusawa & Saugstad, 1979: 465

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia) labeled “22329 [yellow label]” “J-0717-15” “Ryukyu Islands, Okinawa Is., Yona Exp. Forest, 26 April, 1971” “Holotype [red label]” “*Uranotaenia (Pseudo.) novobscura ryukyuana* Tanaka & al., Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969-1976, US Army Med. Lab. Pac.” “NSMT-I-Dip 4204”. In excellent condition. Paratypes: 2 ♂ (J-

0487), pinned; 2 ♂ 2 ♀ (J-0717), pinned; 1 ♂ (J-0716), pinned; 1 ♂ (J-0504-22), pinned; 2 ♂ (J-1293), pinned; 1 ♂ 1 ♀ (J-1288), pinned; 1 ♀ (J-0717-19), pinned; 1 ♀ (J-0507), pinned; 2 ♀ (J-0487), pinned; 1 ♀ (J-0463), pinned; 1 ♀ (J-0510-22), pinned; 1 ♀ (J-1291), pinned; 3 ♀ (J-1293), pinned; 1 ♀ (J-0716-15), pinned; 1 ♂ (J-0468), pinned, with associated slides of head, wings and legs; 1 ♂ (J-0480), pinned, with associated slides of genitalia, head, wings and legs; 1 ♂ (J-0487-p21), pinned, with an associated slide of genitalia; 1 ♂ (J-0491), pinned, with associated slides of head, wings and legs; 2 ♂ (J-0500), pinned, with 2 associated slides of genitalia; 1 ♂ (J-0504), pinned, with an associated slide of genitalia; 2 ♂ (J-0507), pinned, with associated slides of genitalia, head, wings (2) and legs (2); 1 ♀ (J-0504), pinned, with associated slides of head, wings and legs; 2 ♀ (J-0507), pinned, with associated slides of head, wings (2) and legs (2); 1 ♀ (J-0507-p15), pinned, with associated slides of head, wings and legs; 1 ♀ (J-0511), pinned, with associated slides of wings and legs; 1 ♀ (J-0520-19), pinned, with associated slides of head, wings and legs; 4 slides of larvae (J-1293); 2 slides of larvae (J-1293), each with an associated slide of mandibles.

Present taxonomic position. A valid species, *Uranotaenia (Pseudoficalbia) novobscura ryukyuana* Tanaka, Mizusawa & Saugstad, 1979 (Ward, 1984).

Uranotaenia (Pseudoficalbia) ohamai Tanaka, Mizusawa & Saugstad, 1975a: 27

Type material examined. Holotype (original designation): ♂ (pinned) labeled “K-1028-7” “coll. K. Mizusawa, Reared-Crab Hole” “Ryukyu Islands, Iriomote Is., Riv. Yashi-gawa, 18 November 1971” “Holotype [red label]” “*Uranotaenia (Pseudo.) ohamai* Tanaka & al., Det. 197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” In excellent condition. Associated slides of genitalia have not been located. Paratypes: 1 ♂ (K-1028-6), pinned; 1 ♂ (K-1086x), pinned; 2 ♂ (K-0730), pinned; 2 ♂ 1 ♀ (K-0731), pinned; 1 ♂ (K-

0732), pinned; 1 ♂ (K-1018-9), pinned; 1 ♂ (K-1030-28), pinned; 1 ♂ (K-1084-58), pinned; 1 ♂ (K-0946), pinned; 1 ♀ (K-1130-13), pinned; 1 ♂ (K-0724), pinned, with an associated slide of genitalia; 3 ♂ (K-0730), pinned, with associated slides of genitalia (3), heads (2), wings (2) and legs (2); 1 ♂ (K-0731), pinned, with associated slides of genitalia, head, wings and legs; 2 ♀ (K-0731), pinned, with associated slides of heads (2), wings (2) and legs (2); 1 ♀ (K-0924), pinned, with an associated slide of genitalia; 1 ♀ (K-0925), pinned, with an associated slide of genitalia; 2 ♀ (K-1002), pinned, with 2 associated slides of genitalia; 1 ♀ (K-1129), pinned, with an associated slide of genitalia; 16 slides of larvae (K-1128); 3 slides of larvae (K-1321); 1 slide of larva (K-1099); 2 slides of larvae (K-1379); 6 slides of larvae (K-1408); 2 slides of larvae (K-1466); 3 slides of larvae (K-1128), each with 2 associated slides of mandibles.

Present taxonomic position. A valid species, *Uranotaenia (Pseudoficalbia) ohamai* Tanaka, Mizusawa & Saugstad, 1975a (Knight, 1978).

Uranotaenia (Pseudoficalbia) yaeyamana

Tanaka, Mizusawa & Saugstad, 1975a: 31

Type material examined. Holotype (original designation): ♂ (pinned) labeled “K-1094-28” “coll. K. Mizusawa, Reared-Crab Hole” “Ryukyu, Iriomote Is., near Funaura, 28 November 1971” “Holotype [red label]” “*Uranotaenia (Pseudo.) yaeyamana* Tanaka & al., Det.197” “Mosq. Japan & Korea, Tanaka, Mizusawa & Saugstad, 1969–1976, US Army Med. Lab. Pac.” In excellent condition. Paratypes: 2 ♂ (K-1094-b), pinned; 1 ♂ (K-1094-24), pinned; 1 ♂ 1 ♀ (K-0730), pinned; 1 ♂ (K-1010), pinned; 1 ♂ 1 ♀ (K-1002), pinned; 1 ♂ (K-1096d), pinned; 4 ♂ (K-1096e), pinned; 1 ♂ (K-1096-41), pinned; 1 ♂ (K-1126), pinned; 1 ♂ (K-0724), pinned; 1 ♂ (K-0732), pinned; 1 ♂ (K-1317), pinned; 1 ♂ (K-1731), pinned; 2 ♀ (K-1096g), pinned; 1 ♀ (K-1337), pinned; 1 ♀ (K-1321), pinned; 1 ♀ (K-0919), pinned; 1 ♀ (K-1098-17), pinned; 1 ♀ (K-1096-58), pinned; 1 ♀ (K-1078), pinned; 1 ♀ (K-

1324), pinned; 1 ♀ (K-1328), pinned; 1 ♀ (K-1094-68), pinned; 1 ♀ (K-1320-28), pinned; 1 ♂ (K-0724), pinned, with an associated slide of genitalia; 2 ♂ (K-0730), pinned, with associated slides of genitalia (2), head (1), wings (1) and legs (1); 2 ♂ (K-0731), pinned, with associated slides of genitalia (2), heads (2), wings (2) and legs (2); 1 ♂ (K-0732), pinned, with an associated slide of genitalia; 1 ♂ (K-1065), pinned, with associated slides of genitalia, wings and legs; 1 ♀ (K-0724), pinned, with associated slides of head, wings and legs; 1 ♀ (K-0730), pinned, with an associated slide of legs; 1 ♀ (K-0731), pinned, with associated slides of head, wings and legs; 1 ♀ (K-1094), pinned, with associated slides of head, wings and legs; 3 ♀ (K-1096-8), pinned, with 3 associated slides of genitalia; 5 slides of larvae (K-1465); 1 slide of larva (K-1467); 5 slides of larvae (K-1470); 2 slides of larvae (K-1224); 2 slides of larvae (K-1247); 2 slides of larvae (K-1249); 2 slides of larvae (K-1085); 4 slides of larvae (K-1096); 4 slides of larvae (K-1099); 1 slide of larva (K-1094); 1 slide of larva (K-1407); 1 slide of larva (K-1375); 1 slide of larva (K-1373); 1 slide of larva (K-1377).

Present taxonomic position. A valid species, *Uranotaenia (Pseudoficalbia) yaeyamana* Tanaka, Mizusawa & Saugstad, 1975a (Knight, 1978).

3. Material from various sources

Anopheles (Anopheles) omorii

Sakakibara, 1959: 288

Type material examined. Holotype (original designation): ♂ (pinned, with an associated slide of genitalia “paratype No. 11”) labeled “Holotype [red label]” “Holotype, Genitalia separated as paratype No.11” “Shizuoka-ken, Misakubomachi, Tochuyama, 29/VI–1957, Sakakibara Masazumi, emerged 7/VII–1957” “*Anopheles (A.) omorii* Sakakibara, 1959” “NSMT-I-Dip/No. 3881” “Holotype [red label]”. In excellent condition. Allotype: ♀ (pinned) labeled “Allotype [red label]” “Shizuoka-ken, Misakubomachi, Tochuyama, 27/VIII–1956, Sakakibara Masazumi, emerged 2/IX–1956” “*Anopheles (A.) omorii* Sakakibara, 1959” “NSMT-I-Dip/No. 3882” “Al-

lotype [red label]". Paratypes: 1 ♂ (No. 1, pinned) 2 ♀ (No. 9 and 10, pinned) labeled "Shizuoka-ken, Misakubo-machi, Tochuyama, 29/VI-1957, Sakakibara Masazumi"; 4 slides of male genitalia (No. 12, 13, 14, 15), same data; 3 ♂ (No. 2, 3, 4, all pinned) labeled "Shizuoka-ken, Misakubo-machi, Tochuyama, 31/VII-1957, Sakakibara Masazumi"; 3 ♀ (No. 5, 6, 7, all pinned) labeled "Shizuoka-ken, Misakubo-machi, Tochuyama, 27/VIII-1956, Sakakibara Masazumi"; 1 ♀ (No. 8, pinned) labeled "Shizuoka-ken, Misakubo-machi, Tochuyama, 9/VIII-1956, Sakakibara Masazumi"; 3 slides of pupae (No. 16, 17, 18), same locality and collector, 20. VIII. 1958; 2 slides of pupal skins (No. 19, 20), same data.

Present taxonomic position. A valid species, *Anopheles (Anopheles) omorii* Sakakibara, 1959 (Tanaka, Mizusawa & Saugstad, 1979).

Remarks. Sakakibara (1959) deposited the holotype, allotype, and some paratypes in the Research Institute of Endemics, Nagasaki University, and the remaining paratypes in the IID, Tokyo University. All the type material has been transferred to the NSMT in the 1970's.

Aedes (Edwardsaedes) bekkui Mogi, 1977: 129

Type material examined. Holotype (original designation): ♀ (pinned) labeled "*Aedes bekkui* Mogi, 1977, Holotype male" "Genitalia slide M5.9" "Tsushima, Japan, 15 Jun. 1975, M. Mogi". In excellent condition. Associated slides have not been found. Paratypes: 8 ♂♂ ♀ (pinned), same data, associated slides not located.

Present taxonomic position. A valid species, *Aedes (Edwardsaedes) bekkui* Mogi, 1977 (Knight, 1978).

Remarks. This species was described on the basis of the holotype male (with an associated slide of genitalia, 15. VI. 1976) and 30 paratypes ("10 males and 10 females with associated slides of genitalia (3 males and 3 females) and of head plus legs (1 male and 1 female), 10 pupal skins, 10 larvae, same data as the holotype, and 10 larvae (18. VII. 1976)"). Only the holotype and eight pairs of adults, all pinned specimens, have

been found in NSMT. The date of capture of the holotype is "15. VI. 1976" according to the original description, whereas all the pinned specimens, including the holotype, have been labeled "15 Jun. 1975"; the data on the label is certainly erroneous. The type specimens were sent to the NSMT by M. Mogi in 1982.

Culex (Culiciomyia) ceramensis Sirivanakarn & Kurihara, 1973: 220

Type material examined. Paratypes: 1 ♂ (NSMT-I-Dip 3791; pinned, without genitalia) labeled "110-06, *Culex (Culiciomyia)*, Piru, Ceram, 10 III 72" "Paratype, *Culex (Culicio.) ceramensis* Sirivanakarn, Kurihara 1973"; 1 ♂, a slide of genitalia, "Piru, 10 III 72, 110-08, SEAMP Acc No. 325, NSMT-I-Dip 3849"; 2 ♀ (NSMT-I-Dip 3792, 3793; pinned) labeled "Indonesia, Ceram, Piru, Coll. #110, Sago trunk, 10 Mar. 1972" "Paratype, *Culex (Culicio.) ceramensis* Sirivanakarn, Kurihara 1973"; 1 ♀ (NSMT-I-Dip 3848), a slide of larval and pupal skins, "Piru 10 III 72, 110-04, SEAMP Acc No. 325, NSMT-I-Dip 3848"

Present taxonomic position. A valid species, *Culex (Culiciomyia) ceramensis* Sirivanakarn & Kurihara, 1973 (Knight & Stone, 1977).

Remarks. Sirivanakarn and Kurihara (1973) noted that seven paratypes ("3 males (110-06, 07, 08) with associated pupal and larval skins and terminalia slides; 1 female (110-04), 3 females (110), same data as holotype) were deposited in the NSMT. We were able to locate two males ("110-06", a pinned specimen without associated slides, and "110-08", a slide of genitalia only) and three females (two pinned specimens labeled "110" and a slide of larval and pupal skins labeled "110-04"). The holotype and other paratypes are preserved in the Smithsonian Institution, Washington, D.C.

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