

## The Fruit Fly Types in the Naturhistorisches Museum, Wien (Tephritidae-Diptera) <sup>1)</sup>

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(Mit 7 Textabbildungen)

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While working at the Naturhistorisches Museum in 1960—61, I had an opportunity to study the massive fruit fly collection in considerable detail. This is one of the most important collections in the entire world; it is very rich in types and it came as a surprise to find that the greater part of these had never been designated. The collections of F. HENDEL, M. L. HERING, and I. R. SCHINER are of most significance, but valuable materials from the collections of C. R. W. WIEDEMANN are present and I am also including one type of A. DA COSTA LIMA. The main purpose of this study is to designate lectotypes and to present notes on the types in the collection. Wherever I have been able, I have placed the species in their correct combinations. It is probable, however, that there are many changes of combination that I am not aware of.

The fruit fly collection for the most part is in very poor arrangement. It is extremely difficult to find anything since the collection has not been completely organized and only part of the specimens are arranged in any sort of system. The main collection is housed in eight trays which are in fairly good arrangement with the generic names listed on the outside of the trays and with the species arranged under their proper genera. Someone, at one time, obviously started putting the fruit fly collection into shape, but this is as far as they got. Fourteen additional trays of specimens are present in which there is little or no arrangement. Species are badly scattered, everything is mixed up and it is extremely difficult to use this part of the collection. HENDEL's private collection of fruit flies is housed in hood boxes in one of the cabinets above the main Diptera collection, immediately above cases No. 25 and 26 in which are stored the Anthomyiidae <sup>3)</sup>. In most of Hendel's boxes I find no arrangement whatsoever. Most of them are badly mixed up, a complete confusion of species and specimens; I do not understand how HENDEL could have ever used this collection efficiently. Specimens have obviously been put into the boxes in any spaces where they might fit with no regard for a systematic arrangement.

I was very disappointed that I was unable to find any trace of type specimens of G. R. VON FRAUENFELD. He did intensive biological studies and described nearly two

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dozen flower head infesting species. His descriptions gave no collection data, except that he did record the hosts from which the specimens were reared; he gave no distribution, however, and made no mention of the location of his type series (I doubt very much that he had any concept of types). In most cases, he obviously had a good series of specimens before him; he sometimes mentioned that he had an entire row, etc. He must have also had a large collection of immature stages. A note in the 1901 *Botanik und Zoologie in Österreich in den Jahren 1850—1900*. K. K. Zool.-Bot. Ges. Wien, Page 346, says that FRAUENFELD's rich collection was purchased by the valet of Sr. Majestät Herr KUNDRAT and after his death a part in the possession of Prof. O. SIMONGS reached the Hof Museum as a gift. I was unable to find any of FRAUENFELD's type material in the Naturhistorisches Museum. There are specimens of some of his species which were apparently determined by FRAUENFELD, but they contain no locality labels or other data and it is impossible to tell whether or not they were part of his original series.

I did find a remnant of his collection at the Bundesanstalt für Pflanzenschutz, Tunnerstraße 5, Wien. A few species are represented but these are so inadequately labeled that it is impossible to determine whether or not any of the specimens were from his original series. It seems evident that the major part of the FRAUENFELD collection, probably including all of the type material, has been lost.

In HENDEL's private collection, I have found over a dozen species, mostly from South America and Africa, which were named but were apparently never described. I find no reference to them in the literature and feel that it is best that they be left unmentioned.

I am much indebted to Dr. MAX BEIER and his colleagues for the wholehearted cooperation I received during this study. My associations at the Museum were most pleasant.

## F. HENDEL

### *Acidioxantha punctiventris* HENDEL, 1915: 451

One specimen is in the collection, the sex is not known since the abdomen is lost. It is labeled "LOEW, 1865" and what appears to be 2047 (on the top label). A second label reads "FELDER, Ceylon, 1861". A third label reads "*furcata*, Alte Sammlung". The type male was from Alikang, Formosa and is in the Deutsches Entomologisches Institut, Eberswalde.

It has been redescribed by SHIRAKI, 1933: 357.

### *Acroceratitis plumosa* HENDEL, 1913b

The original mentions four females from Kankau, Formosa. A female and a male are in the collection from this series. I am indicating the female as a cotype. The type is in the Deutsches Entomologisches Institut, Eberswalde.

This is the type of the genus. It has been redescribed by SHIRAKI, 1933: 134. *Chelyophora histrionica* de MEIJERE, 1914: 205, from Java, is a synonym.

### *Acrotaeniostola sexvittata* HENDEL, 1915: 438, pl. 8, fig. 4

The original mentions 7 males and females from the following localities in Formosa: Taihorin, Mt. Hoozen, and Kankau. The type is in the Hungarian National Museum although I suspect that none of the series has been labelled.

One female specimen from the latter mentioned locality is present in the collection. I have labelled it as a cotype.

This has been keyed and redescribed by SHIRAKI, 1933: 146.

*Actinoptera meigeni* HENDEL, 1927: 163, pl. 11, fig. 7

The original description indicated 1 male specimen from "Südfrankreich". Two specimens are in the collection labelled "*discoidea*, Coll. WINTHEM". One of these contains a handwritten label "*meigeni* HEND." and I presume that this is HENDEL's type. It had not been indicated as such but I have marked it.

*Aischrocrania aldrichi* HENDEL, 1927: 71, pl. 3, fig. 5, Text fig. 27

Described from one male specimen from Mt. Omei, Czechuen, China, and according to the original description, the type is in the U. S. National Museum. The specimen, however, is in the collection of the Natural History Museum, Vienna; apparently it was never returned to Washington. It was not marked as the type and I have placed a type label on the specimen.

This species has been redescribed and figured by ZIA, 1937: 166, Text fig. 19, pl. 3, fig. 24.

*Anastrepha atrigona* HENDEL, 1914b: 20, pl. 1, fig. 8

Type male in collection from Surinam. This has been studied and redescribed by STONE (1942: 21, fig. 1 C, pl. 1 B).

*Anastrepha cryptostrepha* HENDEL, 1914b: 17, pl. 1, fig. 5

A female specimen labelled type is from Peru—Meshagua, Urubambaf. As pointed out by STONE (1942: 101, fig. 20 B), this is a cotype and a male specimen from the type series is in the Dresden Museum. I am designating the female as the lectotype. This specimen has been studied and redescribed by STONE, *loc. cit.*

*Anastrepha nigripalpus* HENDEL, 1914b: 18

A female specimen labelled "type" from San Antonio, Mapiri, Bolivia. As pointed out by STONE (1942: 87, fig. 17 C), a cotype male is in the Dresden Museum. I have designated the female as the lectotype. Dr. STONE has redescribed this specimen, *loc. cit.*

*Anastrepha xanthochaeta* HENDEL, 1914b: 18

The type female from Rio Grande do Sul, Brazil, is in good condition. The ovipositor has been removed from the specimen and mounted on a microscope slide by STONE. The species has been adequately described by STONE (1942: 43, fig. 6 B). The wing has been figured by COSTA LIMA, 1934a: 516, 516, pl. 63, fig. 4.

*Blepharoneura furcifer* HENDEL, 1914b: 23, pl. 1, fig. 14

The original referred to 2 "♂ ♀" from Mapiri, Bolivia, and from Pachitea-mündung, Peru. The latter, a female specimen, is in HENDEL's private collection. I have marked it as a cotype and assume that the male specimen is the type and is in Dresden Museum.

This has been keyed and briefly described by HERING, 1942b: 132—133.

*Callistomyia horni* HENDEL, 1928: 361

This was described from one male from Palmerston, West Australia, collected in December. The type is supposed to be in the Deutsches Entomologisches Institut, Eberswalde. I have found the type male in HENDEL's private collection. The additional data should be added. It was collected in 1908 by LICHTWARDT. It has not been labelled as type and I have marked it as such.

I have redescribed and figured this species (1951: 173, fig. 26).

*Campiglossa amurensis* HENDEL, 1927: 144, pl. 9, fig. 6

Following the species name in the original, HENDEL had only a "♀" and for the distribution he gave "Amurgebiet". Two female specimens are in the collection labeled "SCHRENK, Amurgebiet", one contains the number 180 and the other number 190. The one numbered 180 is in the better condition and is the specimen which contains HENDEL's handwritten label. They were otherwise unmarked and I am designating the latter specimen as the lectotype.

This species was described briefly and figured by ZIA, 1937: 198, pl. 5, fig. 41. It is also being keyed, redescribed and figured in detail by ITO, in a monograph on Japanese fruit flies in press.

*Cecidocharella elegans* HENDEL, 1936: 75, fig. 3

Two cotypes, male and female, from Serra do Itatiaya Südseite, 2—2700 m. Both specimens are in excellent condition and I have designated the female as the lectotype. I have also found one female, same data as above, in HENDEL's private collection. It had not been marked as a cotype. This is a very distinctively marked Oedaspiinae. Refer to detailed description by ACZÉL (1953a: 115, figs. 3—6, pl. 1, fig. C).

*Cecidochares (Eucecidochares) delta* (HENDEL)

*Procecidochares delta* HENDEL, 1914b: 43, pl. 2, fig. 28.

The original mentions 4 males and females from Cuzco and Mamara, Peru. One female from the former locality is in the collection. I have designated it as a cotype. The type apparently is at Dresden.

This specimen was found in HENDEL's private collection under the name *Cecidochares delta* HENDEL.

It should be noted that HERING, 1942b: 146 treated this under the genus *Eucecidochoares*. ACZÉL (1949: 188) placed it in *Procecidochoares* and in his more comprehensive treatment (1953a: 129, 137), placed it in *Cecidochoares* (*Eucecidochoares*). ACZÉL has keyed the species and has a thorough description in the above reference. The wing is figured in plate 3, fig. H.

*Cecidochoares (Eucecidochoares) quinquefasciata* (HENDEL)

*Procecidochoares quinquefasciata* HENDEL, 1914b: 43, pl. 2, fig. 29.

The original mentioned 11 males and females from Cuzco; Peru. Two males and one female from this series are in HENDEL's private collection; these were not labeled as part of the type series, however, and I have marked them as cotypes. The type is supposed to be in the Dresden Museum.

HENDEL had this under *Cecidochoares* in his collection.

BECKER, 1919: 192, placed this in the genus *Oedaspis*; HENDEL, 1936: 74, placed it under *Cecidochoares*; HERING, 1942b: 146, treated it in *Eucecidochoares* and ACZÉL, 1950: 189, 314, placed it in the combination *Cecidochoares (Eucecidochoares)*. This has been keyed and discussed by ACZÉL, 1953a: 129, 145.

*Ceratodacus longicornis* HENDEL, 1914b: 11, pl. 1, fig. 1, Text fig. A

The type male is in the HENDEL private collection but had not been labeled. It contains only the label "Peru" and contains HENDEL's handwritten determination label. I have marked it as the type.

This was described briefly by HERING, 1942b: 132.

*Chaetostomella lurida rossica* HENDEL

*Chaetostomella onotrophes* forma *rossica* HENDEL, 1927: 125.

In the collection *onotrophes* LOEW, 1846, is listed as a synonym of *lurida* LOEW, 1844 (note that HENDEL gives this synonymy, page 124, but apparently gives preference to *onotrophes*).

Three female specimens are in the collection from Sarepta, South Russia. Each contains a type label. I have selected one as a lectotype.

*Coelopacidia apicalis* HENDEL, 1928: 349

The type male from Katona, East Africa is in HENDEL's private collection. It had not been labeled and I have marked it as the type.

*Coelopacidia carinata* HENDEL, 1928: 349

The type male from Nairobi, British East Africa is in HENDEL's private collection. It had not been labelled as the type and I have marked it as such.

*Dacus (Dacus) clinophlebs* HENDEL, 1928: 344

The original description indicated that the type is in the Deutsches Entomologisches Institut (Eberswalde). HENDEL apparently had one male

and one female. The female specimen from Amani, East Africa, is in the Vienna collection unmarked. I am labelling it as a cotype and am assuming that the type is the male specimen in Eberswalde.

*Dacus (Dacus) furcatus* HENDEL, 1928: 345

A cotype male from Amani, East Africa, collected by ZIMMERMANN is in the collection unmarked. I have designated it as a cotype. I presume the type to be in the Deutsches Entomologisches Institut, Eberswalde. HENDEL designated 8 males and females in the type series.

*Dacus (Dacus) rubiginosus* HENDEL, 1928: 347

The original description indicates that the type is in the Deutsches Entomologisches Institut (Eberswalde). There were 4 specimens, males and females, in the type series. Two specimens, a male and a female, are present in the Vienna collection from Amani, East Africa. The female specimen contains HENDEL's handwritten label and the word "type" at the bottom of the label. I presume both of these to be cotypes and have labelled them as such.

*Dacus (Dacus) zimmermanni* HENDEL, 1928: 346

HENDEL apparently did not label the type series. The type is supposed to be in the Deutsches Entomologisches Institut, Eberswalde. One male and one female, cotypes from Amani, East Africa, are present in the collection.

*Dacus (Strumeta) ciliifer* HENDEL

*Dacus ciliifer* Hendel, 1912b: 15, pl. 1, fig. 1.

Four specimens, two males, two females, are in HENDEL's private collection, which are obviously part of the original type series from Koshun, Formosa, collected by SAUTER. The original description stated that he had 22 specimens. I am labelling the specimens at hand cotypes and assume that the type is in the Deutsches Entomologisches Institut; it is probable that none of HENDEL's specimens were labeled as being part of his type series.

*Dacus (Strumeta) diaphorus* (HENDEL)

*Chaetodacus diaphorus* HENDEL, 1915: 425.

A male and a female are present in the collection from Suisharyo, Formosa. They are obviously part of the type series and I have labelled them cotypes. The type is in the Hungarian National Museum.

*Dacus (Strumeta) dorsalis* HENDEL

*Dacus dorsalis* HENDEL, 1912b: 18, pl. 1, fig. 3.

The type female from Koshun, Formosa, is in excellent condition. This is in the collection under *Bactrocera ferruginea* var. *dorsalis*. Eight cotypes

are in HENDEL's private collection; they had not been labelled as such but are obviously part of the type series from Koshun.

My concept of this species is correct. Refer to HARDY (1949: 183, figs. 1, 4, 7, 8, 9, 14, 16, 19, 22, 25, 28, 31, 34, 37, 39, 44, 47, 50, 53, and 56) and HARDY and ADACHI (1954: 165, figs. 8 a—c and 15e).

*Dacus (Strumeta) latifrons* (HENDEL)

*Chaetodacus latifrons* HENDEL, 1915: 425.

The original description recorded six males and females from Formosa and Singapore. One of the male specimens from Tainan is in the collection. I have labelled it as a cotype. The type is in the Hungarian National Museum.

*Dacus (Strumeta) parvulus* HENDEL

*Dacus parvulus* HENDEL, 1912b: 21.

The original description mentioned five males and females from Kanshirei, Formosa. Two of the males of this series are in the collection in Vienna. I am labeling them as cotypes, assuming that the type is in the Deutsches Entomologisches Institut, Eberswalde. One female specimen is also present from Tainan, Formosa. This was not mentioned in the original, however.

I feel quite certain that this is a synonym of *D. (Strumeta) pectoralis* WALKER (1859, from Borneo, *nec* 1861, from Africa-Ref. HARDY, 1959: 179). At present I find no satisfactory ways to separate these. I am not placing this as a synonym at present since I feel that it would be better to examine more specimens before this is done.

This has been keyed and redescribed by SHIRAKI, 1933: 53—54, under the combination *Chaetodacus parvulus* (HENDEL).

*Dacus (Zeugodacus) hageni* de MEIJERE

*Dacus caudatus* var. *nubilus* HENDEL, 1912b: 16, pl. 1, fig. 2.

In the original description HENDEL designated 16 males and females from Formosa, Tainan, and Fuhosho. In the collection are only 3 females and 2 males from the SAUTER collection and I presume these to be cotypes. No type has been designated. I have selected one female from Tainan as the lectotype. These specimens are in the HENDEL collection housed in hood boxes in a separate cabinet from the regular collection. In the regular collection are 25 specimens from Tainan, Formosa (L. CZERNY). I am not considering these as part of the type series.

I have treated this as a synonym of *Dacus (Zeugodacus) hageni* de MEIJERE; refer to HARDY and ADACHI, 1954: 188, fig. 25.

*Dacus (Zeugodacus) synnethes* HENDEL, n. comb.

*Dacus synnethes* HENDEL, 1913a: 40, fig. 2.

It was described from one female from Fuhosho, Formosa. The specimen is not present in Vienna and is probably in the Deutsches Entomologisches

Institut, Eberswalde. It should be noted, however, that in HENDEL's private collection are two specimens from Formosa, one male from Kankau (Koshun) and one female from Kosempo, both are from the SAUTER collection.

This species is very close to *hageni* de MEIJERE from southwest Pacific and southeast Asia. The only differentiating characters that I can see is that in *synnethes* the costal band extends all the way around the wing margin to vein M 1+2 and the brown marking over the m crossvein extends along the wing margin (although somewhat faded at this point) to the cubital streak. Also the median yellow vitta of the mesonotum appears to extend more anteriorly than is typical for *hageni*, extending approximately opposite the presutural bristles.

A series of seven specimens are in the collection under this name. One male is from Sumatra "871-2"; one male is from Java, collection WINTHEM (this has been determined as *caudatus* WIEDEMANN); two males and two females are labeled "Java orient. Montes Tengger, 4,000, 1890 (H. FRUHSTORFER)"; one female "Java occident, Sukabumi, 2,000, 1893 (H. FRUHSTORFER)". One male is also present labelled "Queensland, 5092". This had been determined as *synnethes* by HERING. The latter specimen is somewhat atypical in that the mesonotum is predominantly rufous with only a black streak down each side. It is obvious, however, that the three yellow vittae are present and this is probably a teneral or a faded specimen. I am not at all sure, however, that the Queensland locality record is correct. These are all specimens of *Dacus* (*Zeudodacus*) *hageni* de MEIJERE.

*Dyseuaresta adelphica* (HENDEL)

*Euaresta adelphica* HENDEL, 1914b: 72, pl. 4, fig. 64.

The original description cited "4 ♂♀ aus Paraguay (FIEBRIG und VEZENYI). Wien. Hof- und Nat.-Mus."

One male specimen is in the collection from San Bernadino, Paraguay, collected by FIEBRIG. It contains HENDEL's handwritten determination label but it was not marked as one of the cotypes. Since Vienna Museum was mentioned first in his distribution of specimens, I am presuming that this is the type and am selecting it as the lectotype.

This is the type of the genus *Dyseuaresta* HENDEL, 1928: 368.

*Euleia (Acidiella) amuricola* (HENDEL)

*Myiobia (Acidiella) amuricola* HENDEL, 1927: 101, pl. 6, fig. 1.

The original description refers to one female from Amur. The type is supposed to be in the Hamburg Museum. I have found the specimen in HENDEL's private collection labeled Amur, leg. DÖRRIES, 1878-1880, and containing HENDEL's handwritten determination label. It was unmarked and I have marked it as the type.

HENDEL placed this under the combination *Myiolia (Acidiella)*. His handwritten label on the specimen is *Acidiella amuricola*; his figure is also labeled this way.

This has been discussed and figured by ZIA, 1937: 173, pl. 3, fig. 29.

It should be noted that *Myiolia* is an error or emendation for *Myoleja* RONDANI (Ref. Foote, 1965: 669). ITO in his monograph of the Japanese fruit flies, in press treats "*Myiolia*" as a synonym of *Acidiella* HENDEL.

*Euleia (Acidiella) angustifrons* (HENDEL)

*Myiolia (Acidiella) angustifrons* HENDEL, 1927: 102.

The type female is in the collection. It had not been marked as a type but contains HENDEL's determination label. The type locality is questionable. The original description did not give the distribution. The specimen contains only a number 95 and a second label HÜGEL. In the copy of Die Fliegen in the Diptera literature collection at the museum has been written in by hand in the space under *angustifrons* where HENDEL usually placed the distribution data "Kashmir (HÜGEL)".

*Euleia (Acidiella) japonica* (HENDEL)

*Myiolia (Acidiella) japonica* HENDEL, 1927: 103.

The type male from Kyoto is in the collection. It had not been labeled, however, and I have indicated it as the type.

This has been redescribed by SHIRAKI, 1933: 249, and is being described and figured in detail under the combination *Acidiella (Acidiella) japonica* (HENDEL) by ITO, in his monograph of the Japanese fruit flies, in press.

*Euleia (Acidiostigma) longipennis* (HENDEL)

*Myiolia (Acidiostigma) longipennis* HENDEL, 1927: 103, pl. 5, fig. 12.

Note: (In the original, the reference to figure 42 was an error).

The original referred to "♂ ♀" from Sze-tschuan, China. HENDEL does not say where the type is located. One male specimen is in HENDEL's private collection from "Szechuen, China, D. C. GRAHAM, coll." collected August 7—14, 1924. It is unmarked except for HENDEL's handwritten label *Acidiostigma longipennis*. I am designating this specimen as a lectotype.

This has been briefly described and figured by ZIA, 1927: 169, pl. 3, fig. 26.

*Eutretosoma oculatum* (HENDEL)

*Eutreta oculata* HENDEL, 1914b: 55, pl. 3, fig. 43.

The original referred to "2 ♂ ♀ aus Mozambique, Rikatia". Nine specimens are present from the type locality but none have been indicated as belonging to the type series. The male specimen is in very poor condition. I have selected a female specimen as the lectotype. This is on a pin containing HENDEL's handwritten determination label. Unfortunately, the specimen is mounted

on a paper card with another female specimen, the lectotype is the specimen on the right.

This species was described in HENDEL's paper on the fruit flies of South America and was obviously included here by accident. There is a reference to a footnote after the species name explaining that it was included in the South American paper by error. The footnote also says that this belongs to a new genus *Eutretosoma*. This is apparently the only reference to an original description of *Eutretosoma*. *E. oculatum* (HENDEL) is the type species.

BEZZI, 1924a:148, gave the first description of the genus. He keys *oculatum* near *marshalli* BEZZI and says that it is differentiated by having the femora black with yellowish tips and the abdomen and ovipositor black. He keys *marshalli* as having the femora yellowish with a narrow black base and the abdomen and ovipositor mainly reddish. The femora of *oculatum* are predominantly dark brown to black, the apices are yellow and a conspicuous yellow mark extends around the ventral portion of each femur near the apical three-fifths of the segment. The abdomen and ovipositor, however, in all the specimens at hand are entirely yellow with a faint discoloration of brown down the median portion of the abdomen.

*Eutreta margaritata* HENDEL, 1914b: 56, pl. 3, fig. 44

The type male from Orizaba, Mexico is present in the collection. It had not been labelled as type and I have marked it as such.

*Felderimyia fuscipennis* HENDEL, 1915: 431

*Felderimyia fuscipennis* HENDEL, 1914a: 81, nom. nud.

The genus was designated by its inclusion in HENDEL's key (1914a: 81) and *fuscipennis* was listed as a new species from the East Indies. The description of the species was published in 1915.

One male and one female are in the collection labelled FELDER, 1892, Ost Indien. Both are labeled type. The male specimen contains HENDEL's handwritten label and I am selecting it as the lectotype.

In HENDEL's key this runs to couplet 45 by having the arista plumose, four scutellar bristles, and the r-m crossvein situated beyond the middle of cell 1st M2. It keys in the same group with *Euphranta* LOEW and *Icteroptera* WULP. It is not related to *Euphranta* since the pleuroterga are bare. HENDEL keys out *Euphranta* by having the first basal cell parallel-sided, and keys *Icteroptera* by having cell R5 distinctly broadened at the base. He differentiates *Felderimyia* from the other two by having the first basal cell narrowed basally. He also adds that the radius is straight. The wings are long and narrow, brown with only the hind margin hyaline, and the ocellar, dorsocentral, and presutural bristles are absent.

Notes on the type: I find only two pairs of orbital bristles. One pair of dorsocentral bristles are present but they are somewhat misplaced and almost

in line with the posterior supraalars. The prescutellar bristles are lacking. The wing is as in figure 1. In MALLOCH's key (1939: 409) this genus and species would fit the first part of his couplet which includes the Dacinae by lacking ocellar and postvertical (postocellar) bristles and also by lacking a presutural bristle on the thorax. It would not fit this subfamily in other respects in that the dorsocentral, sternopleural, and humeral bristles are present; the third antennal segment is not elongated, the aristaе are plumose, etc. The genus is not treated by MALLOCH but would run in his group 3 of Trypetinae by having just four scutellar bristles. This would run in couplet 8 near *Ortaloptera* EDWARDS except that humeral bristles are present.

According to HERING (1940a: 29) except for the bend at the end of vein M1+2, this genus is rather similar to *Ptilona* and is also similar to *Rioxa* because of the shape of the thorax and scutellum.

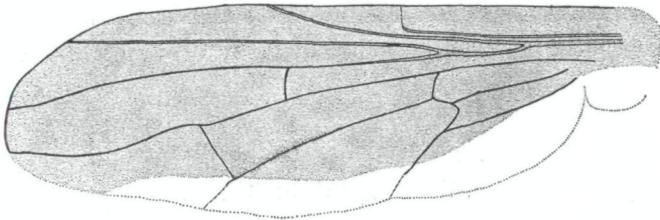


Fig. 1. *Felderimyia fuscipennis* HENDEL, wing of type male.

*Gastrozona macquarti* HENDEL, 1913a: 38

The original indicated two specimens, a male and a female, from Kanshirei, Formosa. One unmarked specimen is in the collection. The abdomen is broken off, however, and I cannot determine the sex. I am labelling it as a cotype. The type apparently is in the Deutsches Entomologisches Institut, Eberswalde. This was redescribed by SHIRAKI, 1933: 151.

*G. melanista* BEZZI, 1913: 107, pl. 8, fig. 18, from India is a synonym.

*Gonioxyina magniceps* HENDEL, 1927: 161, pl. 11, fig. 3, Text fig. 64

Hen del recorded one male from Kuku-Noor, Mongolia. According to the original, it is supposed to be in the Hamburg Museum. A male specimen, however, which I am sure is the type was found in HENDEL's private collection labeled "Kuku-Nor-Dep. R. TANCRÉ, det. 17. I. 1894". It contains HENDEL's handwritten determination label. I am marking this specimen as the type. This species is the type of the genus.

The left wing, the two hind and one middle leg are broken from the specimen.

It was discussed and figured by ZIA, 1937: 195, pl. 4, fig. 40 and by ZIA and CHEN, 1948: 116, pl. 5, fig. 12.

*Haywardina cuculi* (HENDEL)

*Tomoplagia cuculi* HENDEL, 1914b: 35.

The original mentions 2 specimens, a male and a female, from Tucuman, Argentina. The female specimen is in HENDEL's private collection and I have labeled it as a cotype. I am assuming that the male specimen is the type and is in the Hungarian National Museum.

ACZÉL listed this in his catalog of the Neotropical Trypetidae under *Tomoplagia* (1950: 242) and redescribed and figured this in detail under the combination *Haywardina cuculi* (HENDEL), 1951: 259, fig.s 1–14. This is the type of *Haywardina* ACZÉL.

*Hexachaeta monostigma* HENDEL, 1914b: 24, pl. 1, fig. 16

Two female specimens from the original series are in HENDEL's private collection. These are from Mapiri, Bolivia. They had not been marked and I have labelled them as cotypes. According to the original, the type is in the Dresden Museum and is probably a specimen from Meshagua, Peru.

Refer to HERING, 1942b: 135.

*Hexachaeta obscura* HENDEL

*Hexachaeta amabilis* var. *obscura* HENDEL, 1914b: 26, pl. 1, fig. 18.

This was raised to species-rank by HERING (1942b: 135).

It should be noted that ACZÉL (1950: 194) cited this species as "*Hexachaeta obscura* (HENDEL)". The parenthesis should not be used as Hendel described this originally under *Hexachaeta*.

The type was not designated. It is obviously the male specimen in the collection labelled "FIEBRIG, Paraguay, S. Bernardino". I have labelled this specimen as the type. A female specimen is also present from Sao Paulo, Alto da Serra, 29–30. X. 27. ZERNY.

This was keyed and briefly described by HERING, 1942b: 143, 144.

*Homoeothrix lindigi* (HENDEL)

*Euribia lindigi* HENDEL, 1914b: 68, pl. 3, fig. 58.

HENDEL did not designate a type. In the original the type data is cited "♂ ♀ aus Venezuela". The collection contains 3 males and 1 female labeled "LINDIG, 1864, Venezuela". I have selected a male specimen as the lectotype.

The species was apparently adequately described and figured by HENDEL. This is the type of the genus *Homoeothrix* HERING, 1944: 7. HERING cited the genotype as "*Euribia lindigi* (SCHINER i. l.) HENDEL, 1914". ACZÉL, 1950: 284, cites this "*Homoeothrix lindigi* (SCHINER i. l. HENDEL)". (I find no reference to a *lindigi* in SCHINER and question the "in litt.")

It should be noted that the original spelling of the genus was "*Homoeothrix*". This was obviously a typographical error and was corrected by HERING, 1947: 7.

*Icterica atacta* HENDEL, 1914b: 62,, pl. 3, fig. 51

The type female from San Bernardino, Paraguay, is present in the collection. It had not been labelled as the type and I have marked it. It should be noted that the original description spelled the type locality "S. Bernardino".

*Icterica cashmerensis* HENDEL, 1927: 141

The type male from the Cashmere is in the collection. It had not been labelled as the type and I have marked it as such.

*Icterica lunata* HENDEL, 1914b: 61, pl. 3, fig. 50

Type female from Orizaba, Mexico is present in the collection. It had not been labelled as type and I have marked it as such.

*Icterica strobilioides* HENDEL, 1914b: 62

The type female from San Bernadino, Paraguay, is present in the collection (HENDEL spelled the type locality "Bernhardino"). It was not labelled as type and I have marked it as such.

For notes on this species refer to LINDNER, 1928: 28—29.

*Meracanthomyia gamma* HENDEL, 1910: 197, pl. 1, fig. 13

Type male from Ceylon.

*Oedaspis heringi* HENDEL, 1927: 85

The male specimen, reared from a gall, on *Schizogyne sericea* D. C. from La Palma, Canary Islands, 31. III. 26, by HERING is in HENDEL's private collection. I am marking this specimen as the type. The original description refers to only one male. This specimen was found in with a mixture of odds and ends of Hendel's species from South America.

*Oxya amurensis* HENDEL, 1927: 165

HENDEL described this from one female specimen which is in the collection labelled "SCHRENK, Amurgebiet, 16-VII-56 (this is obviously 1856)". It had not been marked as the type and I have indicated it as such.

HENDEL, in the original description, refers to the legs of the male as being yellow. I am sure this was supposed to have meant female since I doubt that he saw a male specimen.

This was briefly described by ZIA, 1937: 194.

*Parhexacinia palpata* (HENDEL)

*Hexacinia palpata* HENDEL, 1915: 459, pl. 9, fig. 19.

The original description referred to five males and females from the following localities in Formosa: Chip-chip, Mt. Hoozen, and Toyenmongai.

He gave the disposition of the type as Hungarian National Museum. One male and one female from the first and the last of the mentioned localities are present in HENDEL's private collection. I have labelled them as cotypes.

The species has been redescribed by SHIRAKI, 1933: 319; ZIA, 1937: 142, pl. 2, fig. 15, and was designated as the type of the genus *Parhexacinia* CHEN, 1948: 121.

*Paroxyna difficilis* HENDEL, 1927: 152, pl. 17, fig. 10

In the original, the data immediately following the species name was "♂ ♀" and the distribution was given as Austria and South Lappland. In the collection are two female specimens labelled "Lapp. Merid. Coll. WINTHEM". Each contains "type" label. I have designated one of these as a lectotype.

*Paroxyna lederi* HENDEL, 1927: 153, pl. 10, fig. 12

HENDEL in the original description indicated one male from Mongolia. The specimen in the main collection under *lederi* containing the data "N. Mongolei, LEDER 92" is a female. The type male was found unmarked in HENDEL's private collection. I have marked it as the type.

ZIA has figured this, 1937: 202, pl. 5, 45.

*Paroxyna quadriguttata* HENDEL, 1927: 158, pl. 9, fig. 7

The type female is in HENDEL's private collection labelled "Transbaik., Piest Schanka bei Tschita, VI, VII, 18. H. FRIEB." The specimen contains the original determination label of HENDEL and the word "type" has been written in black ink on the bottom of this label.

This has been redescribed and figured by ZIA and CHEN, 1938: 127, fig. 31.

*Phantasmia cylindrica* HENDEL, 1915: 435

The original referred to two males from Kankau, Formosa, and gave the disposition as Deutsch. Ent. Museum. One of these male specimens is in HENDEL's private collection. I am labelling it as a cotype and am presuming the type to be the other male specimen in the Deutsches Entomologisches Institut, Eberswalde.

This has been redescribed by SHIRAKI, 1933: 289.

*Proceidochares pleuritica* HENDEL, 1914b: 43

The type male from San Bernadino, Paraguay, is in the collection. It had not been marked and I have labelled it as type.

The species was keyed and discussed by ACZÉL, 1953a: 125—26.

*Pseudacrotaenia pseudovespillo* (HENDEL)

*Acrotaenia* (*Pseudacrotaenia*) *pseudovespillo* HENDEL, 1914b: 60.

HENDEL recorded 3 "♂ ♀" specimens. One male is in his private collection from Pachitea, Peru, 4. 12. 03. I presume the type to be in the Dresden Museum. I am labelling this specimen as the cotype.

This was placed in the above combination by ACZÉL, 1950: 270.

*Pseudacrotaenia rica-velata* (HENDEL)

*Acrotaenia* (*Pseudacrotaenia*) *rica-velata* HENDEL, 1914b: 60, pl. 3, fig. 48.

The original description mentioned 2 males from Meshagua, Peru, and Callanga, Peru. The first was supposed to be returned to the Dresden Museum and the second to the Hungarian National Museum.

Two male specimens are in HENDEL's private collection containing the above data. These were obviously his cotypes. They were not indicated as such, however. The specimen from Meshagua is in poor condition and I have selected the specimen from Callanga as the lectotype.

This was placed in the above combination by ACZÉL, 1950: 270.

*Pseudodacus macrura* (HENDEL)

*Anastrepha macrura* HENDEL, 1914b: 16.

Type female from Paraguay.

This has been placed in the genus *Pseudodacus* by STONE, 1939b: 285. Refer to STONE's description.

*Rhabdochaeta asteria* HENDEL, 1915: 462, pl. 9, fig. 18

I have found one unmarked ♀ cotype in HENDEL's private collection from Chip-chip, Formosa. I have labelled it as a cotype. The type is probably in the Hungarian National Museum.

This species has been keyed and redescribed by SHIRAKI, 1933: 486 and is being treated in detail in a monograph of the Japanese Tephritidae by Dr. S. ITO, in press.

*Rhachiptera biarcuata* HENDEL, 1914b: 54

In the original, the type data was given as "♂ ♀, aus Chile, Concepcion (P. HERBST). Ung. Nat. Mus. und Wien. Hof-Mus." One male specimen is in the collection labeled "Novara R. Chile". This also contains HENDEL's determination label and is obviously a cotype. I am presuming that the type is in the Hungarian National Museum and am labeling this specimen as a cotype.

*Rhachiptera percnoptera* HENDEL, 1914b: 53, pl. 2, fig. 40

The original data were as follows: "♂ ♀, aus Chile, Taltal und aus Rancagua (leg. P. HERBST) im Ung. Nat.-Mus.". The HERBST specimens from

Rancagua, a male and a female, are in HENDEL's private collection. They are not marked, however, as being part of the type series. I am labelling them as cotypes and am assuming that the type is a specimen from Taltal in the Hungarian National Museum.

*Seraca signifera* (WALKER)

*Colobostrella ruficauda* HENDEL, 1915: 429, pl. 8, fig. 7

The type male from Patunuang, S. Celebes, is present in the collection in good condition except that one wing is missing. It had not been labelled as the type and I have marked it as such.

The above synonymy was recorded 1959: 197; also refer to this reference for a redescription and figure.

*Sophira excellens* HENDEL, 1915: 441, pl. 9, fig. 14

The original mentions 2 "♂ ♀" from Kankau, Formosa, and gives their disposition as Hungarian National Museum. One specimen was obviously retained in HENDEL's private collection. It has been broken off the pin, however, and only the pin and label remain. There is a female abdomen, however, directly beneath the specimen which I am sure belonged on the pin so I suspect that this is the female specimen and the type will be the male in the Hungarian National Museum.

The species has been redescribed by SHIRAKI, 1933: 322.

*Staurella apicalis* (HENDEL) n. comb.

*Euphranta apicalis* HENDEL, 1915: 440, pl. 8, fig. 1.

In the original, HENDEL recorded two males from Tapani, taken in March. He said they were in the Hungarian National Museum. One male specimen is in the collection labelled "Tapani, 1911, m. Formosa, SAUTER", and it contains Hendel's determination label "*Euphranta apicalis*". This is one of the cotypes and I have labelled it as such. I am presuming the type to be in the Hungarian National Museum.

This belongs in *Staurella* BEZZI. It has been keyed and described by SHIRAKI, 1933: 330, 336.

*Staurella chrysopila* (HENDEL) n. comb.

*Euphranta chrysopila* HENDEL, 1913a: 37, fig. 1.

In the original HENDEL recorded five males from Koshun, Formosa. Four specimens from the SAUTER, Formosa, collection are present; three of these are from Koshun and one is from Kankau. One of the Koshun specimens is a female. I am assuming that at least the two remaining male specimens belong to the original type series although Hendel did not mark any of the

specimens except with determination labels. I am selecting one of these males as the lectotype.

This species fits in the genus *Staurella* BEZZI. It was keyed and described by SHIRAKI, 1933: 330, 334.

*Trypeta wiedemanni* (HENDEL)

*Spilographa wiedemanni* HENDEL, 1923: 397.

The type male, from Kiel, is in the collection. It had been properly designated as the type.

HENDEL, 1927: 79, placed this in the genus *Trypeta*.

*Strobelia alboguttata* HENDEL, 1914b: 52, pl. 2, fig. 39

The type male from Talcahuano, Chile, is in the collection but had not been labeled as the type. I have indicated it as such.

*Strobelia bimaculata* HENDEL, 1914b: 52, pl. 2, fig. 37

The type female from Rio Grande do Sul, Brazil, is present in the collection but had not been labelled as the type. I have marked it as such.

*Strobelia ferruginea* HENDEL, 1928: 369

The original refers to 2 males from Mendoza, Argentina, and gave the disposition as Deutsch. Ent. Mus. Berlin. One of these male specimens is HENDEL's private collection and is labeled type. I am presuming that this is actually the type.

*Strobelia lutulenta* HENDEL, 1914b: 52, pl. 2, fig. 38

The original mentions 3 females from Rivadavia, Argentina, but gave no disposition of the series. ACZÉL, 1949: 262 assumed that the type was in Vienna. I have not been able to find it in the main collection but find one female specimen from the series in HENDEL's private collection. I am selecting this as a lectotype.

*Strobelia parallela* HENDEL, 1914b: 51, pl. 2, fig. 36

The type data given in the original description is as follows: "♀ aus Peru, Callanga, Ungar. Nat.-Mus. und Bolivia, Mapiri—Dresd. Mus." This makes it obvious that HENDEL had at least two specimens before him. In HENDEL's private collection is a female specimen from Callanga, Peru, marked with a number 1211 and containing HENDEL's determination label. Since this was the first mentioned specimen, I am presuming that this is the type and have marked it as such; it belongs in the Hungarian National Museum.

This is briefly described by HERING, 1942b: 149.

It should be noted that ACZÉL, 1950: 263, 325, misspelled the name "*paralella*".

*Taeniostola limbata* HENDEL, 1915: 435, pl. 8, fig. 3

The original recorded 7 males and females from the following locality in Formosa: Taitorinsho, Taihorin, and Sokutsu. HENDEL said that the types were in the Hungarian National Museum and the Deutsch. Ent. Mus. I suspect that none of HENDEL's specimens were indicated as cotypes. Two female specimens are in the collection from this series, the first and the last mentioned localities. I have labelled them as cotypes.

This species has been keyed and redescribed by SHIRAKI, 1933: 140.

*Tephritis cornupuncta* HENDEL, 1927: 185, pl. 14, fig. 1

HENDEL gave no information concerning the type series and did not say how many specimens he dealt with. He gave the distribution as Austria and Spain. Only 2 specimens are in the collection; one male from Salzburg, No. 5870. BERGENST, also contains a handwritten label "*Tephritis cornupuncta*". I am designating this specimen as a lectotype. The other specimen is also a male from „S. Frankr. Pyr. or. Mt. Canigou, 12—16. VI. 24 ZERNY". HENDEL described the female sex but no female specimens are present in the collection. This species was keyed by HERING (1944: 27).

*Tephritis crepidis* HENDEL, 1927: 186, pl. 13, fig. 4

None of the specimens in the type series was indicated and HENDEL, in the original, gave no specific type locality. He cited the distribution as Middle Europe and Trieste. A long series of specimens are in the collection and many of these were probably in HENDEL's cotype series. One male specimen contains a handwritten label "*Tephritis crepidis* H." and I am selecting it as the lectotype. It is labelled "Arag. Mosoardon b. Albarracin. 17. VII. 24. ZERNY".

In the collection, *crepidis* HENDEL is placed as a synonym of *T. matricariae* LOEW. This is not correct, *matricariae* is a synonym of *nigricauda* LOEW (Ref. HENDEL, 1927: 192). *T. crepidis* was keyed by Hering (1944: 28).

*Tephritis frauenfeldi* HENDEL, 1927: 187, pl. 13, fig. 6

None of the cotype series was indicated. HENDEL, in the original, did not state how many specimens he had before him and gave the distribution as Austria, Rumania, and Albania. A series of over sixty specimens are in the collection, many of these probably were in the original type series but there is no way of knowing. Since no type was designated, I have picked one male specimen which contained a handwritten label "*Tephritis frauenfeldi* HEND." and have designated it as the lectotype. It contains the label "MANN 1863, Brussa". This species was keyed by HERING (1944: 27).

*Tephritis kukunoria* HENDEL, 1927: 189, pl. 17, fig. 6

The original recorded one female from Kuku-Noor Gebiet, Mongolia. The specimen was supposed to have gone to the Hamburg Museum; however, I have found it in HENDEL's private collection unlabeled except for his handwritten determination label. I have labeled this as the type.

This was keyed and figured by ZIA, 1937: 207—208, pl. 6, fig. 52 and was keyed by HERING, 1944: 29.

*Tephritis mongolica* HENDEL, 1927: 191, pl. 17, fig. 7

The original recorded one male from Kuku-Noor Gebiet, Mongolia. It was supposed to have gone to the Hamburg Museum. In HENDEL's private collection, I find a pin containing his handwritten determination label for this species. The specimen is missing however. The data on the pin reads "Kuku-Nor-Geb. R. TANCRÉ deb. 17. I. 1894". This was, no doubt, the type specimen although I am unable to find even remnants of it in the box. This particular box (No. 24) contains fragments in the bottom of quite a number of specimens which have been broken off the pins.

This was keyed and figured by ZIA, 1937: 207—208, pl. 6, fig. 54 and was keyed by HERING, 1944: 30.

*Tephritis zernyi* HENDEL, 1927: 197, pl. 13, fig. 12

HENDEL gives no type data and listed the distribution as Spain. Five specimens, two males and three females, are in the main collection labeled "Aragon Albarracin, 29.—30. VII. 24. ZERNY". One male specimen contains a handwritten label "*Tephritis zernyi* H.". I have selected this specimen as the lectotype. One female cotype is also in HENDEL's private collection. It contains the same data as the lectotype.

This was keyed by HERING, 1944: 19.

*Terellia (Trichoterellia) setifera* HENDEL, 1927: 129

HENDEL's type male from Austria is in the collection. Although it had not been labeled I have marked it as the type. This is the type of the subgenus *Trichoterellia* HENDEL.

*Tomoplagia atelesta* HENDEL, 1914b: 37

I have found one unmarked ♂ cotype from Mapiri, Bolivia, in HENDEL's private collection. I have labeled it as a cotype. HENDEL did not designate a type and cotypes were to go to the Hungarian National Museum and the Dresden Museum.

This was keyed by ACZÉL, 1955a: 355.

*Tomoplagia atimeta* HENDEL, 1914b: 35, pl. 2, fig. 25

I have found one unmarked cotype male from Mapiri, Bolivia, in HENDEL's private collection. I have labeled it as a cotype. The type is in Dresden.

This was keyed by ACZÉL, 1955a: 330.

*Tomoplagia diagramma* HENDEL, 1914b: 36

The species was described from four males from Urubambafluß, Peru. The type is in the Dresden Museum. I have found one unmarked specimen in HENDEL's private collection. I have labelled it as a cotype.

This was keyed and described briefly by HERING, 1942b: 144 and was keyed by ACZÉL, 1955a: 335.

*Tomoplagia fiebrigi* HENDEL, 1914b: 40

The type data contained only the information "♂ ♀ aus Paraguay, S. Bernardino (leg. FIEBRIG)". HENDEL indicated that the type series was in Vienna and in the Hungarian National Museum. Four specimens are in the collection from the cotype series. two males and two females. None had been marked as type or cotype. I have selected one female as the lectotype. It should be noted that the correct spelling of the type locality is S. Bernardino; in the original, the added "h" in the middle of the word was an error.

This has been described, figured, and keyed by ACZÉL, 1955a: 331, 355, figs. 98 j—o, 102 j—k, pl. 22, fig. 15.

*Tomoplagia monostigma* HENDEL, 1914b: 38, pl. 2, fig. 27

I have found a male and female specimen in HENDEL's private collection which bear the same data as the type. I am labelling these as cotypes. The type from Laristal, Peru, is in the Dresden Museum.

This was keyed and described briefly by HERING, 1942b: 144, 145 and was keyed, described and figured in detail by ACZÉL, 1955a: 337, 373, figs. 95 a—e, 97 i, pl. 20, fig. 8.

*Tomoplagia phaedra* HENDEL, 1914b: 38

The type is supposed to be in the Dresden Museum according to the original description but I have found the male specimen from Rosalina, Urubambafluß, Peru, collected November 3, 1903 in HENDEL's private collection unmarked. I have labeled this as the type.

This has been described, figured and keyed by ACZÉL, 1955a: 329, 378, figs. 100 h—l, 102 c—d, pl. 24, fig. 21.

*Tomoplagia reimoseri* HENDEL, 1914b: 39

The original description stated that there were six males and females from Paraguay in the Vienna Museum and from S. "Bernhardino" (this

should have been spelled Bernardino) in the Hungarian National Museum, and also one female from Trinidad. In the collection are five specimens, three males and one female, from Paraguay and one female from Trinidad. They had not been marked as cotypes. I have selected a male specimen from Paraguay as the lectotype.

This has been described, figured, and keyed by ACZÉL, 1955a: 333, 392, figs. 101 i—m, 102 q—r, pl. 25, fig. 24.

*Trupanea metoeca* HENDEL

*Trypanea metoeca* HENDEL, 1914b: 77, pl. 4, fig. 71.

The original recorded five males and females from Cuzco and Mamara, Peru, and Arica, Chile. Two males and one female are in HENDEL's private collection from the first two mentioned localities. I am labeling these cotypes and am assuming that the type was returned to the Dresden Museum.

The species has been treated by MALLOCH, 1933: 285, 288, pl. 5, fig. 12 and by HERING, 1936: 329, 331.

*Trupanea (Goniurellia) augur tridens* (HENDEL)

*Urellia augur* var. *tridens* HENDEL, 1910: 106, pl. 1, fig. 4.

The type series was not marked and a type has never been indicated. The original description refer to "3 ♂ ♀" from Ober-Murgab, Turkmenien. The 3 specimens are present in the collection (2 males and 1 female). I have selected the female specimen as the lectotype since it is in the best condition.

This was keyed and described under the above combination (as "*Trypanea*") by HENDEL, 1927: 198, 199. *T. augur* is the type of the subgenus *Goniurellia* HENDEL.

*Trupanea (Goniurellia) ensina* HENDEL

*Trypanea (Goniurellia) ensina* HENDEL, 1927: 200.

The type male from Luxor, Egypt, is present in the collection. It had not been marked as the type and I have designated it as such.

*Trypanaresta apotela* (HENDEL)

*Trypanea apotela* HENDEL, 1914b: 83, pl. 4, fig. 84.

The original referred to two females from Venezuela in the Vienna Hof-Museum. I find one of the female specimens from the LINDIG 1864 collection in HENDEL's private collection. I did not find the specimen in the main collection. I have marked this as a lectotype.

This species has been placed under the combination *Trypanaresta apotela* (HENDEL) by HERING, 1942b: 157.

*Trypanocentra nigripennis* HENDEL, 1915: 434

A female specimen labeled "*Trypanocentra nigripennis*" is in HENDEL'S private collection but it contains no locality labels. This species was based upon "1 ♀ aus dem indischen Archipel. Sammlung Prof. HERRMANN". I have no way of knowing whether or not the specimen in HENDEL'S collection is the type.

*Trypeta indica* (HENDEL)

*Phorellia indica* HENDEL (1915: 448, fig. 11).

Type female from Darjeeling, India, in excellent condition.

A predominantly rufous species, tinged with brown on the sides of the abdomen. The arista is densely pubescent. Three lower and two upper fronto-orbital bristles are present. The dorsocentral bristles are situated just slightly behind a line drawn between the anterior supraalars. The wings have been figured by HENDEL. Vein R4+5 is bare except for three short hairs at the base. The r-m crossvein is situated near the apical two fifths of cell 1st M2. The abdomen is predominantly rufous, sometimes brown on the sides and occasionally blackened on the sides of the fifth and sixth terga. The female ovipositor base is black. The base of the ovipositor is about equal in length to segments five and six.

HERING (1938: 42) treated this as a *Trypeta*. He says that *indica* is very close to *T. pseudozoe* HERING (op. cit.: 43, fig. 45) and is distinguished from it by the blackish spot on the fork of the radius and on the cubital cell ("Can"). I fail to see these differences. HERING'S figure shows shading near the fork of the radius and at the base of cell M4. It is this way in all of the specimens of *indica* in the collection. I am sure that these are synonyms.

Besides the type, three females and one male are present in the collection, all except one contain the same data as the type and one is labeled "Sikkim März, April (H. FRUHSTORFER)". These should have been included in the type series.

*Urophora manni* (HENDEL) n. comb.

*Euribia manni* HENDEL, 1927: 45.

Two cotypes, one male, one female. I have designated the male specimen as the lectotype.

*Urophora nigricornis* HENDEL n. comb.

*Urophora nigricornis* HENDEL, 1910: 106.

Two cotypes. I have designated the male as the lectotype.

This was keyed and described by HENDEL, 1927: 38, 45 in *Euribia*. This was keyed by HERING, 1916: 322.

*Urophora syriaca* (HENDEL) n. comb.

*Euribia syriaca* HENDEL, 1927: 49.

The type female from North Syria is in the collection but it was unmarked. I have labelled it as the type.

*Urophora tenuior* HENDEL

*Urophora tenuis* HENDEL, 1910: 105.

*Urophora tenuior* HENDEL, 1910: 311, change of name for *tenuis* HENDEL, nec. BECKER, 1907.

Three specimens, two females, 1 male, are in the collection, each contains a type label and presumably they are cotypes. They contain the data "Kungrui-ly, IV. 87, REITER, 1894 Turkmenien" and "Uber-Murgab IV. 87, REITER, 1894 Turkmenien". I have designated the male as a lectotype.

HENDEL, 1927: 39, 49 keyed and described this under the combination *Euribia tenuior* (HENDEL). *Euribia* MEIGEN, 1800, has been suppressed by International Commission on Zoological Nomenclature Opinion 678 (1963).

*Vidalia appendiculata* HENDEL, 1927: 72, pl. 3, fig. 6, text fig. 28

HENDEL apparently had one male and one female from Suifu, Szechuen, China. The type was supposed to have been returned to the U. S. National Museum. The female specimen is in the collection in Vienna. It had not been designated as part of the type series and I have placed a cotype label on this specimen.

This was figured and briefly described by ZIA, 1937: 162, pl. 3, fig. 21.

*Vidalia bidens* HENDEL, 1915: 443

HENDEL recorded two specimens, a male and a female, from Toyenmongai and Mt. Hoozan, Formosa. He indicated that these were in the Hungarian National Museum. The male specimen from Toyenmongai is in the Museum in Vienna. I am labeling it as a cotype (it was not indicated as part of the type series) and am assuming that the female specimen in Budapest is the type.

## M. L. HERING

*Acanthiophilus astrophorus* HERING, 1939: 187, fig. 22

The male and female in the collection from Colombo, Ceylon are both labeled "type". The male is in poor condition and I have designated the female as the lectotype.

*Acanthoneura longiplaga* HERING, 1939: 174, fig. 8

Type male in collection from Amboina.

This does not run well in MALLOCH, 1939: 417, since he keys *Acanthoneura* as having one pair of infra-orbitals and two pairs of supraorbitals.

HERING said this was a striking species which perhaps should fit in a new genus characterized by having only one pair each of upper and lower fronto-orbital bristles as well as by other details.

*Acidoxanthopsis advena* HERING, 1941 b: 194, fig. 2

Type male from Ugano, Tanganyika.

*Acrotaeniacantha radiosa* HERING, 1939: 189, fig. 25

Type male from "LINDIG, Venezuela, 1864". The specimen also contains a second label "*Carrhotricha*, alte Sammlung". This is the type of the genus *Acrotaeniacantha* HERING. It is a distinctively marked Tephritinae with gray pollinose thorax, having a brown spot at the base of each of the major bristal. The frontal bristles are large, white, and each is situated on a slight prominence. Two pairs of upper and three pairs of lower fronto-orbital bristles are present. The wings are predominantly brown, densely covered with tiny hyaline spots a series of large hyaline identations are present around the apex of the wing.

*Afraciura zernyi* HERING, 1941 b: 198, figs. 5—6

Type female and allotype male present from Ugano, Africa.

As pointed out by MUNRO, 1957 a: 890, *Conionota fracta* MUNRO, 1947: 178, is a synonym.

*Antoxya oxynoides* (BEZZI)

*Euribia oxynoides* BEZZI, 1924 a: 137 (key). MUNRO, 1935: 153, fig. 20.

*Oxya africana* HERING, 1941 b: 201, fig. 8.

The type male of *africana* is present from Ugano.

Synonymy by MUNRO, 1957 a: 935.

*Brachyaciura discogettata* HERING, 1941 b: 198, fig. 4

Type male from Ugano, Africa.

*Dacopsis dacina* HERING, 1944: 3, fig. 2

Type female from Amboina. This is the type of the genus.

*Diarrhegmoides bicalcaratus* HERING, 1944: 4, fig. 6

Type female from Cape York.

*Epochrinopsis bicolorata* HERING, 1939: 169, fig. 4

Type male from Cuesta von Cillutincara, Bolivia. The head is broken off. The mesonotum is opaque black, rufous on the humeri and tinged with red on the posterior portion and on the sides. The scutellum is yellow, the pleura

are rufous, tinged with brown to black on the sternopleura. The legs are predominantly yellow, tinged with brown on the hind femora. The abdomen is shining black. Refer to the original description for a figure and description of the wings.

*Gymnaciura austeni* (MUNRO)

*Tephrella austeni* MUNRO, 1935b: 7, fig. 2.

*Aciura distigmoides* HERING, 1941b: 196, fig. 3.

The type female of *distigmoides* is present from Linda, Tanganyika. This is the type of *Gymnaciura* HERING (1942a: 284) and is a synonym of *Gymnaciura austeni* (MUNRO), refer to MUNRO (1957a: 892).

*Heringomyia zernyana* (HERING) n. comb.

*Cladotricha zernyana* HERING, 1941: 203, fig. 12.

The type female is from Ugano, Africa.

It should be noted that *Cladotricha* was described by HERING, 1941b: 204, based upon *Rochmopterum fordianum* MUNRO. He has used this name earlier, 1940b: 15, as a nom. nud. It is preoccupied by *Cladotricha* Gaievskaja, 1926: 255. I am proposing the name *Heringomyia* to replace *Cladotricha* HERING.

*Mesoclanis campiglossina* HERING, 1944: 13, fig. 5

Type female labeled "India or".

It should be noted that HERING, in his description, said this was similar to "*M. spiloptera* (BEZZI, 1913)". The latter is an African species placed in the genus *Scedella* by MUNRO, 1957a: 1001.

*Metasphenisca zernyi* HERING, 1941b: 199, fig. 7

Type female from Lupenbe-Berg, Tanganyika.

*Ocnerioxa delineata* HERING, 1941b: 195, fig. 1

Type female from Ugano, Tanganyika.

*Pardalaspis migrata* HERING, 1944: 5, fig. 1

Type male from "Ost-Indien". Three additional specimens, 2 ♂♂, 1 ♀, are in the collection containing the same data as the type "Ost-Indien, FELDER, 1892". HERING's description is adequate except that his figure does not show the conspicuous golden mark present on the crossband which extends over r-m and m crossveins. This mark covers the lower two-thirds of the r-m crossvein, extends along vein M 1+2 slightly beyond the m crossvein and into the upper third to one-half of cell 1st M 2 along the upper portion of the m crossvein. The female fits the description of the male in most respects (the head is broken from the specimen at hand — one of the male specimens

also lacks its head). The abdomen is, however, entirely subshining dark brown to black. The base of the ovipositor is equal or slightly longer than the remainder of the abdomen. The piercer is broad and rather blunt at the apex.

*Paroxyna anomalina* (BEZZI)

*Spathulina anomalina* BEZZI, 1924b: 536, pl. 14, fig. 87.

*Paroxyna munroi* f. *apiceguttata* HERING, 1941b: 202, fig. 10.

Type male from Ugano. Refer to MUNRO, 1957a: 968, for this synonymy.

*Paroxyna separabilis* HERING, 1941a: 31

The type male and five topotypic males from Yunnan are in the collection. These are obviously paratypes but are not indicated as such. In the original description, HERING mentions the type male and six additional male specimens. HERING says this fits near *P. tolli* HERING and he gives differentiating features. He did not figure this species.

*Paroxyna venezolensis* HERING, 1939: 184, fig. 20

Type female in good condition labeled "LINDIG, 1864, Venezuela".

*Pliomelaena sokotrensis* HERING, 1939: 180, fig. 15

Type female from Ras Shoab, Sokotra, I.

*Ptosanthus helvus* (LOEW)

*Trypeta helva* LOEW, 1961: 294, pl. II, fig. 24.

*Mesoclanis* (*Paroxyna*) *trifasciata* HERING, 1939: 182, fig. 17.

The type male and allotype female of *trifasciata*, both labelled "type", are in the collection from Escarpment, British Ostafrika. This has been treated by MUNRO (1957a: 1011, figs. 174—177).

*Scedella caffra* (LOEW)

*Trypeta caffra* LOEW, 1861: 290, pl. II, fig. 21.

*Mesoclanis* (*Paroxyna*) *illuminata* HERING, 1939: 181, fig. 16.

The type male of *illuminata* from Mozambique, Rikatla is in the collection. Refer to MUNRO, 1957a: 991, for treatment of this species.

*Scedella longiseta* (HERING)

*Paroxyna longiseta* HERING, 1941b: 203, fig. 9.

Type female from Ugano, Tanganyika. Placed in *Scedella* by MUNRO, 1957a: 1006.

*Sophiroides flammosa* HERING, 1940a: 27, fig. 4

*Sophiroides flammosa* HENDEL, 1914a: 78, nom. nud.

The type female from Peradeniya, Ceylon is in excellent condition.

It should be noted that the original designation of *Sophiroides* consisted of an inclusion in HENDEL's key to the genera of fruit flies. He mentioned the type species *S. flammosa* but the species was first described by HERING, 1940a: 27, fig. 4.

This is a Trypetinae belonging in the tribe Acanthoneurini. It is a strikingly colored species readily recognized by the markings of the thorax, abdomen, and wings (fig. 2). Following is a redescription of the type:

Head: Predominantly yellow except for the dark brownish red eyes and a narrow black rim along the lower margin of the face (epistoma). The front has a faint discoloration of brown extending longitudinally down the middle and is approximately two times longer than wide, measured from the lower ocellus to the front median margin. Two pairs each of superior fronto-orbitals and inferior fronto-orbitals are present. The lower inferior is thin, rather hair-like. Also a fine hair is present on each side between the upper inferior and lower superior. The lower superior frontal-orbital is well developed, almost as large as the vertical bristles. The antennae are yellow, tinged faintly with brown on the third segment, the third segment is approximately three times as long as wide. The arista are moderately long plumose, each plume is approximately equal in length to the width of the third antennal segment. The face is moderately concave as seen in profile. The oral margin is somewhat protruded. The apical half to two-fifths of each palpus is black. The basal portion is yellow. Thorax: Yellow with four black longitudinal vittae extending down the mesonotum: one vitta down each dorsocentral and one down each side just behind the humerus. A longitudinal black vitta also extends through each pleuron from the pro to the hind portion of the pteropleuron. The scutellum is yellow, the metanotum is shining black. One pair of dorsocentral bristles is present, this is situated about halfway between the anterior and posterior supraalar. The prescutellar bristles are strong. Pre-sutural bristles are absent. One bristle is present on each humerus. The scutellum has four strong bristles and two small secondary bristles (on the right side two small hair-like bristles are present; on the left one is present). Legs: Entirely yellow except for a faint tinge of brown on the middle and hind tibiae. Each middle tibia has a strong apical spur extending nearly two-fifths the length of the basitarsus. Wings: Predominantly dark brown, with distinctive pale yellow markings. The basal third of the wing is yellow fumose with a faint discoloration of brown extending longitudinally just beyond the humeral crossvein. In the apical half of the wing is a large two-pronged yellow mark extending into the median portions of cells  $R_3$  and  $R_5$  as shown in figure 2. A yellow fumose mark extends from the posterior portion of the wing at the apex of vein Cu transversely to about vein  $R_{4+5}$ , a small yellow spot surrounds

the latter vein immediately above the transverse marking. A hyaline mark is also present in the wing margin at the lower apical portion of cell 2nd  $M_2$  (fig. 2). Abdomen: The first tergum is yellow, the basal three-fifths of the second is shining black, the apical two-fifths is yellow. Terga three-six are broadly shining black on the sides, the dorsomedian portion is yellow. The base of the ovipositor is rather broad, about equal in width to the sixth abdominal segment and equal in length to segments three-six. The piercer has not been pulled out. It appears to be slender and with two short setae on each side of the apex.

Length: Body, measured from base of antenna to apex of sixth abdominal segment, equals 6.4 mm.; wings 6.6 mm.

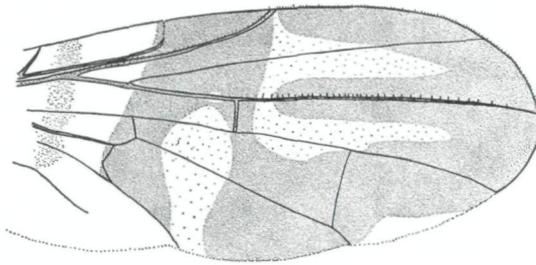


Fig. 2. *Sophiroides flammosa* HERING, wing of type female.

*Trypeta enigmatica* HERING, 1938: 40, fig. 42

A paratype female is in the collection from Burma under the genus *Phorellia* ROBINEAU DESVOIDY. I am not sure whether or not this combination is correct.

*Trupanea afra* HERING

*Trupanea afra* HERING, 1941b: 200, fig. 11.

The type female is from Ugano, Africa.

This species was not treated in MUNRO's monograph of the African *Trupanea* (1964).

I. R. SCHINER

*Actinoptera brahma* (SCHINER)

*Tephritis brahma* SCHINER, 1868: 272.

*Actinoptera ceylanica* HERING, 1941c: 72, fig. 6. New synonym.

The type female of *brahma* is in the collection from Madras.

HERING, 1944: 17, fig. 7, placed this species in the genus *Actinoptera* and said that it fits near *A. ceylanica* HERING. I have compared the type of *brahma* carefully with HERING's description and figure and fail to find any significant differences. I would consider *ceylanica* as a synonym of *brahma*.

It should be noted that even though HERING, 1944: 17, placed this in the genus *Actinoptera*, in the same publication (page 30) in his key to the species of *Tephritis* he keys out *brahma* SCHINER in couple 104 near *praecox* LOEW.

*Afreutreta frauenfeldi* (SCHINER)

*Icaria frauenfeldi* SCHINER, 1868: 276, fig. 4a–b.

Three female specimens are in the collection from the Reise Novara collection at the Cape of Good Hope, South Africa. Also two galls are present, one of which contains a pupal case. None of the specimens is indicated as the type. I have labelled one as the lectotype.

This species belongs in the genus *Afreutreta* BEZZI, and has been treated under this combination by BEZZI, 1924b: 528, and by MUNRO, 1939: 156. BEZZI said this species had been described from the Cape but had not been seen subsequently. He said that it differed from other known *Afreutreta* by having the “wings with very numerous hyaline dots on the disc and even with some hyaline spots within the stigma”. In his other paper, 1924a: 128, BEZZI keys this near *A. millepunctata* BEZZI and differentiates *frauenfeldi* by having the “first posterior cell (cell  $R_5$ ) black at end; wings without deep black spots on disc; stigma with four hyaline spots in the middle”. As contrasted with *millepunctata* which has the apical portion of cell  $R_5$  hyaline and which has some deep black spots on the wing. It should be noted that in the 3 specimens at hand, the stigma (subcostal cell) has only 2 hyaline spots. These are situated in the upper portion beneath the costal margin. MUNRO (op. cit.) keyed this by having the “wings uniformly blackish with the hyaline dots fairly evenly scattered all over, but rather larger towards the hind margin; abdomen not spotted”.

*Anastrepha munda* SCHINER, 1868: 264

The type male is in the collection labelled “LINDIG, 1864, Venezuela”. It is in excellent condition except one antenna has been broken. SCHINER gave the type locality only as “Süd-Amerika”.

This is in collection under *A. obliqua* MACQUART, in with a series of two males and one female from Paraguay “Iguate, Bras”; and “Rio G. do Sul” determined as *obliqua* by HENDEL. HENDEL, 1914b: 18, considered *munda* a synonym of *obliqua*. I see no way to differentiate these. The specimens at hand will not run in STONE’S (1942) key since the female ovipositor (of the one female specimen) has not been relaxed and extended. STONE, 1942: 41 and 75, points out that neither *obliqua* or *munda* can, at present, be recognized and it is not certain that the two are synonyms. It is possible that HENDEL’S determination may not be correct and it would be necessary to compare the female ovipositors before a decision can be made.

*Anastrepha striata* SCHINER, 1868: 264

The type female is in the collection labelled "LINDIG, 1864, Venezuela". SCHINER in the original description gave the locality only as "Süd-Amerika". The specimen had not been labeled as the type and I have marked it as such. It is in rather good condition except for a thin layer of fungus on the body and except for a break in the costal margin of one of the wings.

This species has been adequately treated by STONE, 1942: 29, fig. 3a, pl. 3b. Stone says that this is one of the commonest species of the genus and ranges throughout much of the neotropical region.

This species was also keyed, described, and figured by HENDEL, 1914b: 19, pl. 1, fig. 7.

*Blepharoneura poecilosoma* (SCHINER)

*Oxyphora poecilosoma* SCHINER, 1868: 274.

In the original SCHINER indicated 18 males and 8 females from South America. In the collection I find 17 males and 6 females labeled "LINDIG, 1864, Venezuela". There are also 2 males and 1 female in the same series labelled only "*Oxyphora*, alte Sammlung". These all were probably in the original type series. No specimen has been indicated as the type. I have selected a male specimen as the lectotype. I have purposely picked a specimen whose wing maculation fits that of HENDEL's figure (1914b, pl. 1, fig. 11) since HENDEL obviously studied this collection and probably made his figure from one in this series. As mentioned by HENDEL (*loc. cit.*: 22) this species is quite variable. Figure 11 of HENDEL apparently is the one he considered to be typical of *poecilosoma*.

This was placed in *Blepharoneura* by LOEW, 1873: 270. For synonymy and references to this species refer to ACZÉL, 1950: 196.

*Camaromyia bullans* (WIEDEMANN)

*Tephritis meleagris* SCHINER, 1868: 272.

Described from Chile, I have been unable to find the type. ACZÉL, 1950: 295, placed it as a synonym of *Camaromyia bullans* (WIEDEMANN).

*Cecidochares (Eucecidochares) frauenfeldi* (SCHINER)

*Oedaspis frauenfeldi* SCHINER, 1868: 266, fig. 6 a—c.

A male and a female specimen are in the collection from Brazil. This is the pair mentioned by SCHINER in the original. Both are covered by a considerable amount of debris but the female is the better of the two specimens and I have selected it as the lectotype (a type had not been designated). The female specimen has obviously been used by SCHINER for his drawings. The wing pattern fits exactly and the mesonotum of the male specimen is completely obscured by debris and could not have been used for figure 6b.

This belongs under the combination *Cecidochoares* (*Eucecidochoares*). It was first placed here by BEZZI, 1911: 22; BEZZI and TAVARES, 1916: 160. This species has been figured by COSTA LIMA, 1934b: 122, pl. 1, fig. 6.

*Cecidochoares* (*Eucecidochoares*) *leucotricha* (SCHINER)

*Oedaspis leucotricha* SCHINER, 1868: 266.

SCHINER recorded "Vier Stücke aus Süd-Amerika". The collection contains one female, two males and one specimen which I cannot tell the sex of since the abdomen is broken labeled "LINDIG, 1864, Venezuela". A type has not been designated. I have selected a male specimen as the lectotype.

This fits in the genus *Cecidochoares* (*Eucecidochoares*) and has been treated as such by BEZZI, 1911: 22; BEZZI and TAVARES, 1916: 160, and others. The species was figured by COSTA LIMA (1934b, pl. 1, fig. 9).

*Celidosphenella poecila* (SCHINER)

*Sphenella poecila* SCHINER (1868: 268).

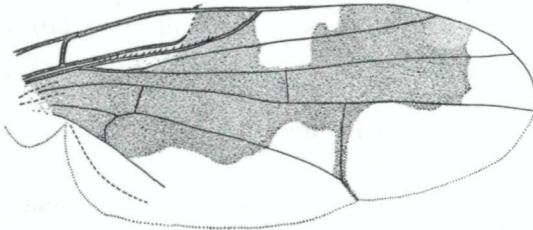


Fig. 3. *Celidosphenella poecila* (SCHINER), wing of type male.

The type male from Chile is in the collection. It had not been designated as the type, however, and I have marked it as such.

This was placed in the genus *Celidosphenella* by HENDEL, 1914b: 49, and it has been treated under this combination by ACZÉL, 1950: 258. To date, it has been recorded only from Chile and is probably known only from the single specimen on hand in the museum in Vienna.

This species is evidently differentiated from *C. maculata* HENDEL, 1914b: 48, (the type of the genus also described from Chile) by the differences in the wing markings. In *poecila* the dark brown markings are solid through the median portion of the wing (fig. 3) and also extend into the basal portion of the wing. In *maculata* as figured by HENDEL (pl. 2, fig. 34) the brown markings are interrupted by pale areas through the median portion of the wing and apparently the basal third to one-fourth of the wing is hyaline. HENDEL's specimen was a female. It is possible that this difference is a sexual dimorphism. It would be necessary to study more material for both sexes in order to be sure that these are not the same species.

*Dacus (Strumeta) frauenfeldi* SCHINER

*Dacus frauenfeldi* SCHINER, 1868: 262.

In the original description SCHINER indicated a male and two females. A type specimen apparently was never designated. Two females are in the collection from the Stuart Islands and are obviously specimens which SCHINER used in his description. I am designating one of these as the lectotype.

My concept of this species as discussed in HARDY and ADACHI, 1954: 168, fig. 10, and HARDY and ADACHI, 1956: 9, figs. 3a—d, is correct.

*Eutreta (Phasmatocephala) distincta* (SCHINER)

*Icaria distincta* SCHINER, 1868: 276.

The only type data given by SCHINER in the original was that he had a female specimen from South America. The type was not marked; it is a specimen labeled "LINDIG, 1864, Venezuela". I have marked it as the type.

This species was placed under *Eutreta* LOEW (change of name for *Icaria* SCHINER, 1868, nec *Icaria* de SAUSSURE, 1853) by HENDEL, 1914b: 55, fig. 42, and in the subgenus *Phasmatocephala* by HERING, 1942b: 149. The wing has been adequately figured by HENDEL, op. cit., fig. 42.

An additional male specimen is in the collection labeled "STIEGLMAYR, Rio Gr. do Sul".

*Neotephritis aberrans* (SCHINER)

*Oxyphora aberrans* SCHINER, 1868: 273.

The original description lists five males and three females from "Columbien". Two females and three males are in the collection labeled "LINDIG, 1864, Venezuela". A type apparently was not designated. I have selected a male specimen as the lectotype.

This was placed in the genus *Neotephritis* by HERING, 1947: 6.

*Paroxyna pelia* (SCHINER)

*Tephritis pelia* SCHINER, 1868: 271.

The type female from Sydney is in the collection. It is in good condition except that the third segment of the antenna is broken off. It is impossible to differentiate this species from the original description since SCHINER did not include a figure of the wing, and the description is general enough to include many species of *Tephritis*.

The type was redescribed by HERING, 1944: 9, fig. 4. He placed it in the genus *Paroxyna*. As pointed out by HERING, loc. cit.: 10, *Tephritis pelia* MALLOCH, 1939: 461, is a synonym of *Campiglossa poenia* (WALKER). My recording of *Tephritis pelia* SCHINER as a synonym of *Trypeta poenia* WALKER, HARDY, 1959: 219, was based upon the description of *Tephritis pelia* by MALLOCH and should refer to the species described by MALLOCH rather than the one described by SCHINER.

*Pseudacrotaenia vespillo* (SCHINER)

*Carphotricha vespillo* SCHINER, 1868: 275.

A male and a female in the collection are labeled "LINDIG, 1864, Venezuela". A type had not been designated and I have selected the female specimen as the lectotype. SCHINER in his original gave only the data "Ein Pärchen aus Süd-Amerika". HENDEL, 1914b: 59—60, pl. 3, fig. 47, placed this in the genus *Acrotaenia* (*Pseudacrotaenia*) HENDEL. He gave a redescription and a figure of the species.

ACZÉL, 1950: 271, places this under the combination *Pseudacrotaenia vespillo* (SCHINER).

It should be noted that both HENDEL and ACZÉL cite the original generic combination as *Oxyphora vespillo* SCHINER. This was actually described under *Carphotricha*.

*Rhagoletis metallica* (SCHINER)

*Spilographa metallica* SCHINER, 1868: 265.

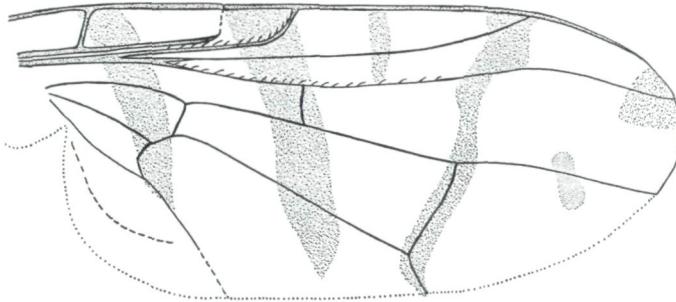


Fig. 4. *Rhagoletis metallica* (SCHINER), wing of type male.

The type female is in the collection labeled "LINDIG, 1864, Venezuela". It had not been marked as the type and I have indicated it as such. The specimen is headless. SCHINER in the original description recorded merely "Ein Stück aus Süd-Amerika".

This is a *Rhagoletis* and was keyed and described by HENDEL, 1914b: 29. He differentiated it from other neotropical *Rhagoletis* by having the brown crossband over the m crossvein entirely isolated and widely separated from the other brown marks in the wings. The wing markings consist of three narrow transverse bands extending almost or completely across the wing, one near the wing base, one at level of r—m crossvein, and one at level of m crossvein. Also, a narrow brown streak extending transversely from the costa near the middle of cell  $R_1$  to  $R_{4+5}$ ; a rather large triangular-shaped brown spot is present at the apex of vein  $R_{4+5}$  and an oblong mark extends across the middle of the last section of vein  $M_{1+2}$  (fig. 4). The r—m crossvein is situated slightly before the middle of cell 1st  $M_2$ . No strong costal setae are present at the end of the subcosta on the specimen at hand.

*Rhagoletis ochrastis* (WIEDEMANN) ?

*Spilographa nova* SCHINER, 1868: 264.

SCHINER recorded two males from Chile in his original description. I am unable to find these specimens in the collection although I find the place (the pin holes) where they once were. The label "Nova Chili, Novara SCHIN." stands alone. No specimens are above it. They may possibly have been removed to another portion of the collection.

ACZÉL, 1950: 239, has listed this as a questionable synonym of *Rhagoletis ochrastis* (WIEDEMANN).

*Spathulina acroleuca* (SCHINER)

*Tephritis acroleuca* SCHINER, 1868: 268.

The type female from Sydney is in the collection. It had not been designated but is obviously the specimen described by SCHINER. This species belongs in the genus *Spathulina* RONDANI and has been correctly interpreted by HARDY and ADACHI, 1956: 24, figs. 13a-f.

*Sphenella sinensis* SCHINER, 1868: 267

*Sphenella indica* SCHINER, 1868: 267.

*Trypeta sinensis* THOMSON, 1869: 585.

The type female of *sinensis* SCHINER is in collection, from Shanghai, although it was not marked as the type. The type male of *indica*, from Madras, also had not been designated but these are obviously the specimens described by SCHINER. I agree with MUNRO, 1957b: 41, that these are synonyms. The name *sinensis* should, however, be attributed to SCHINER, not to THOMSON. MUNRO gave the latter paper as "1858" as pointed out in the Catalog of the Diptera of America North of Mexico by STONE, SABROSKY, et al. (1965: 1442). "Although the title page for Diptera (in THOMSON) is dated 1868, contemporary evidence, such as reviews and receipts by societies, indicates that it was published early in 1869."

SCHINER, in his description of *indica*, said that it differed from *sinensis* by being more reddish brown in color; by the stripe on each side of the thorax from the humerus to the wing base, and also the scutellum being yellow; the brown crossbands on the abdominal segments being wider and the lower margin of the face more prominently produced. He also cited differences in the wing markings. I see no differences in the body coloration of these. The humeri, scutellum and lateral margins of mesonotum are also yellow on *sinensis*. The dark bands on the abdomen are slightly broader in *indica* and there are slight differences in wing markings, but I feel that these are of no significance and may be sexual differences or variations. The lower margin of the face does appear slightly more prominent in *indica* but the head is damaged on the female specimen of *sinensis* and the shape of the lower margin cannot be clearly seen.

SHIRAKI, 1933: 402, recorded this (as *indica*) from Formosa.

*Gastrozonia soror* (SCHINER)

*Acidia soror* SCHINER, 1868: 264.

The type specimen is in the collection, from Batavia. It has not been marked as a type, however, and I have labelled it as such. The abdomen is missing (this was mentioned by SCHINER) and it is not possible to be sure of the sex.

This belongs in the genus *Gastrozonia* BEZZI but differs from any of the species known to me because of the wing (fig. 5) and thoracic markings.

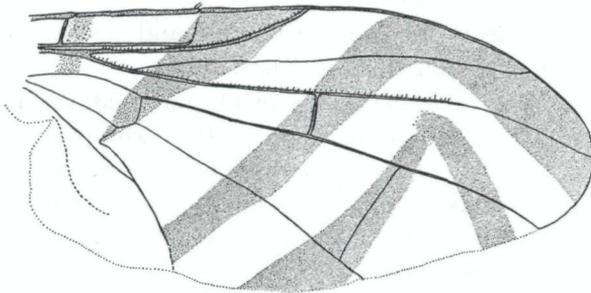


Fig. 5. *Gastrozonia soror* (SCHINER), wing of type.

The following descriptive notes are based upon the type.

A predominantly yellow species with a shining black vitta extending down each side of the mesonotum, this is slightly interrupted on each side at the suture. The apex of the scutellum is dark brown to black and the sides of the metanotum are also dark brown to black. The antennae are yellow, the third segment is nearly three times longer than wide and is slightly tapered but rounded at the apex. The arista is long plumose, the longest hairs are slightly greater in length than the width of the third antennal segment. The face is straight or nearly so. As seen in profile it is slightly concave just above the oral margin. Three pairs of lower and two pairs of upper fronto-orbital bristles are present. The ocellar bristles are well developed, about equal in size to the lower fronto-orbitals. The front is entirely golden yellow. Four strong scutellar bristles are present (the two lateral bristles are broken from the specimen at hand). The dorsocentral bristles are situated almost opposite the anterior supraalar. The prescutellar bristles are strong, slightly longer than the dorsocentrals. The presutural bristles are almost as long as the dorsocentrals and just slightly longer than the humeral bristles. The legs are entirely yellow. The wings are predominantly hyaline, conspicuously marked with oblique streaks of brown extending across the wing. A faint streak of brown is present near the wing base just beyond the humeral crossvein. A dark brown mark fills all of the subcostal cell and extends obliquely across the wing to the m-cu crossvein and the portion of vein  $Cu_1$  before the downward bend. A broad dark brown band extends along the costa from the

upper apical portion of cell  $R_5$  to about the basal one-third of cell  $R_1$ , then bends sharply and extends obliquely across the wing at a level with the r-m crossvein and extends to vein  $Cu_1 + 1st A$ . Another brown streak extends from the wing margin in the apical half to two-thirds of cell  $M_4$  across the m crossvein, almost connecting with another narrow brown streak extending transversely from the median portion of cell  $R_5$  to the wing margin at about the upper one-third of cell 2nd  $M_2$  (fig. 5).

*Trupanea asteria* (SCHINER)

*Tephritis asteria* SCHINER, 1868: 270.

This species belongs in the genus *Trupanea* and has been correctly placed by BEZZI, 1913: 167, pl. 10, fig. 71. BEZZI, however, stated that the third segment of the antenna of the male is black and that the face of the male is predominantly velvety black in color. In the two specimens at hand the face and antennae are just slightly darker in the male than in the female, but I do not find the striking difference in coloration which BEZZI recorded.

DE MEIJERE, 1908: 132, pl. 4, fig. 6, recorded *T. asteria* from Java. This record has not been confirmed.

In the original description, SCHINER indicated two males and eight females from Madras. In the collection are two males and five females labelled "Novara-R. Madras" and a second label "*asteria* Alte Sammlung". None is labelled type and the specimens had not been designated as the type series although they are obviously the specimens used by SCHINER. I have designated one male specimen as the lectotype of *Tephritis asteria*.

*Trupanea diespasmene* (SCHINER)

*Tephritis diespasmene* SCHINER, 1868: 271.

The type female from Chile is in the collection. It had not been marked as the type, however, and I have indicated it as such.

This species was keyed and figured under *Euribia* by HENDEL, 1914b: 66, fig. 62. MALLOCH, 1933: 293, 295, fig. 22, placed this in the genus *Trupanea*; this seems to be correct and his treatment is adequate. It should be noted that ACZÉL, 1950: 302, listed this "*Tripanea diespasmene* (SCHINER)." also that his reference to the figure in HENDEL's description should be 62 not "22".

It was keyed, redescribed and figured by ACZÉL, 1953b: 277, 281, figs. 6—8, pl. 20, fig. C, E.

*Trupanea novarae* (SCHINER)

(Figs. 6—7)

*Tephritis novarae* SCHINER, 1868: 269.

SCHINER in the original mentioned 3 males from Chile. Two male specimens are present in the Novara collection from Chile, these are mounted on the same pin. The type has not been previously marked. I have designated

the lower specimen as the lectotype. Three additional specimens, one male and two females, are in the collection from Paraguay and from "Rio Gr. de Sul". These had been determined by HENDEL as *novaræ*.

This is a typical *Trupanea* and was placed under this combination (as "*Trypanea*") by HENDEL, 1914b, 75–76, and ACZÉL, 1950: 306. Both of these workers placed *Urellia bonariensis* BRÉTHES, 1908: 369, fig. 2, as a synonym of *novaræ*. It was keyed, redescribed and figured by ACZÉL, 1953c: 367, 376, figs. 7–12, pl. 27, fig. D.

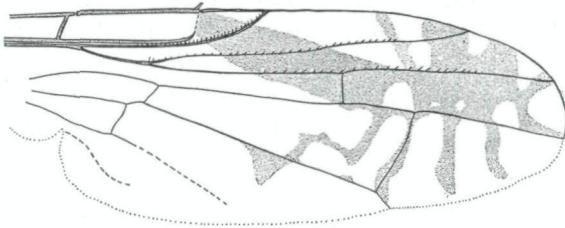


Fig. 6. *Trupanea novaræ* (SCHNER), wing of cotype male.

The wings apparently show some variation in markings although after comparing these carefully I feel quite certain that the above recorded synonymy is not correct and that *bonariensis* BRÉTHES is a valid species. The wing figured by BRÉTHES (page 370) is typical of the specimens determined as *novaræ* by HENDEL from Paraguay and Rio Grande do Sul. The three specimens on hand are consistent in their wing markings. The most striking dissimilarity in the wing markings of *novaræ* and *bonariensis* is in the shape of the hyaline mark near the basal portion of cell  $R_1$ : In *novaræ*, measured from the end of vein  $R_1$  to the narrow transverse arm of brown extending through cell  $R_1$  just beyond the middle, the hyaline mark is approximately two times longer than its greatest width (fig. 6); in *bonariensis*, this mark is slightly or distinctly wider than long (fig. 7). In *novaræ* the major portion of the subcostal cell is hyaline along the costa. In *bonariensis* just the extreme apical portion is hyaline. The fourth costal section (between tips of veins  $R_1$  and  $R_{2+3}$ ) is comparatively long in *novaræ*; it is slightly over two times longer than the fifth costal section (between tips of  $R_{2+3}$  and  $R_{4+5}$ ) and the brown mark at the apex of cell  $R_1$  extends scarcely one-fourth the length of the cell (fig. 6). In *bonariensis* the fourth costal section is about one-third longer than the fifth and the apical third of cell  $R_1$  is brown (fig. 7). In *novaræ* the hyaline spot just below the apex of vein  $R_{2+3}$  is situated at about the middle of the brown spot which occupies that portion of the wing; in *bonariensis* this hyaline spot is located near the apical fourth to one-third of the brown marking. *T. novaræ* also has one or two round hyaline spots in the lower portion of the large subapical brown marking at the middle of cell  $R_5$ ; these are not present in the specimens of *bonariensis* which have been examined. *T. novaræ* also has

a distinctive marking of brown extending from vein  $M_{1+2}$  — as a narrow zig-zag arm of brown across the apical portion of cell 1st  $M_2$  and connecting with a triangular spot of brown in the upper median portion of cell  $M_4$  (fig. 6). *T. novarae* has setae along veins  $R_{2+3}$  and  $R_{4+5}$  and I am unable to detect any setae on these veins, except for a single hair on the node, in the specimens of *bonariensis* which I have studied (these may have been rubbed off). The latter species also has several poorly defined, faintly brown markings in the posterior portion of the wing (fig. 7). The thorax and abdomen of *novarae* are rather densely gray pollinose. The specimens of *bonariensis* on hand are distinctly yellow-gray on the thorax and yellow pollinose on the abdomen.

It appears likely that *T. novarae* is known only from Chile and that the records from Paraguay, Brazil and possibly Argentina (refer to ACZÉL, 1939: 306) probably refer to *bonariensis*.

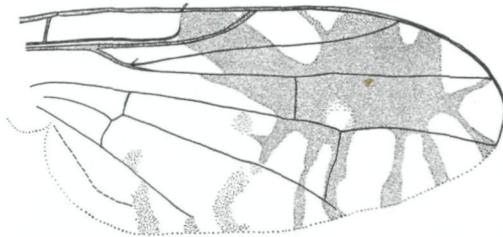


Fig. 7. *Trupanea bonariensis* BRETHES, wing of male from Paraguay.

### *Trupanea (Goniurellia) cosmia* (SCHINER)

*Tephritis cosmia* SCHINER, 1868: 269.

The original description referred to 3 females and 2 males from Madeira. Four specimens from the type series are in the collection — 3 females and 1 male. One male is missing. No type has been designated and I have selected a female as the lectotype.

This species has been redescribed and figured by HENDEL, 1927: 200, pl. 16, fig. 2, under the combination "*Trypanea*" (*Goniurellia*) *cosmia* (SCHINER).

It should be noted how remarkably similar the wing markings are of *cosmia* and *Trupanea texana* HERING. Compare HENDEL's figure (*loc. cit.*) with HERING's figure of *texana*, 1942c: 17, fig. 18. I am not sure how these might be separated. I have not had an opportunity to study specimens of *texana*.

### *Xarnuta leucotelus* WALKER

*Oxyphora malaica* SCHINER, 1868: 274.

This species was described from Ceylon. I am unable to locate SCHINER's type in the collection. BEZZI, 1913: 75, said *malaica* "is said to be synonymous with *Xarnuta leucotelus* WALKER as was suspected by SCHINER himself".

## C. R. W. WIEDEMANN

*Anastrepha fraterculus* (WIEDEMANN)

*Dacus fraterculus* WIEDEMANN, 1830: 524.

The type male is in rather good condition, some of the tarsi are broken and the wings are slightly dirty. This is an *Anastrophe* and has been adequately treated by STONE, 1942: 78, fig. 15 D, pl. 16 B—D. The specimen is labelled "Brasilia, coll. WINTHEM".

*Anastrepha parallela* (WIEDEMANN)

*Dacus parallelus* WIEDEMANN (part), 1830: 515.]

Two cotypes, one male, one female, are in the collection labeled "Brasilia, coll. WINTHEM". I have selected the male specimen as the lectotype. This is an *Anastrepha* and has been adequately treated by STONE, 1942: 53, fig. 9 A, pl. 9 D. Both specimens are in good condition except that the antennae are broken from the female. It should be noted that STONE, 1939a: 349 says that the female cotype is the holotype of *Lucumaphila zernyi* (COSTA LIMA).

*Chaetostomella stigmataspis* (WIEDEMANN)

*Trypeta stigmataspis* WIEDEMANN, 1830: 478.

The type female is in the collection but had not been marked as the type. I have indicated it as such. The type is labelled "Russ. merid." plus the original label "*stigmataspis* WIEDEM.".

HENDEL, 1927: 125, redescribed this species and placed it in the genus *Chaetostomella* HENDEL.

*Conradtina acroleuca* (WIEDEMANN)

*Dacus acroleucus* WIEDEMANN, 1830: 520.

The type male in collection is labeled only "*acroleucus*, alte Sammlung". It contains no locality label. The original description indicated that the locality was unknown. The type is in rather poor condition but most of the important characters are discernible, the wings are in excellent condition.

This is a Euphrantini belonging in the genus *Conradtina* and it is obviously an African species. It was placed in *Conradtina* by HENDEL (1912a: 13). The species is rather similar to *C. longicornis* ENDERLEIN, 1911: 444, fig. 5, but the wing pattern differs from that figured by Enderlein by having the apices of cells  $R_3$  and  $R_5$  hyaline, the band of brown along the costal margin which connects with the transverse brown band extending across the wing at the r-m crossvein narrowed and not filling the entire wing apex as in *longicornis*. Also, in ENDERLEIN's species the band of brown extending transversely across the m crossvein is broadly connected at the base with the band extending across the r-m crossvein; in *acroleuca* these two bands are distinctly separated.

Three pairs of inferior and two pairs of superior fronto-orbital bristles are present. The pleuroterga are haired. The scutellum has four bristles. All femora have short, closely placed, antero- and posteroventral spines on the apical portions. Wings with a brown transverse band extending from cell Sc to apex of cubital cell. Another extending from margin at middle of cell R<sub>1</sub> transversely across wing at level of r-m crossvein, almost touching hind margin near apex of cell M<sub>4</sub>. This band also continues around the wing margin as a very narrow brown costal band which extends to the apex of vein R<sub>2+3</sub> then extends obliquely across wing apex to upper apical corner of cell 2nd M<sub>2</sub>; leaving the apices of cells R<sub>3</sub> and R<sub>5</sub> hyaline. A narrow band also extends transversely from the upper apical corner of cell M<sub>4</sub> across m crossvein through cell R<sub>5</sub> to vein R<sub>4+5</sub>.

*Craspedoxantha marginalis* (WIEDEMANN)

*Tephritis marginalis* WIEDEMANN, 1818: 47.

*Trypeta marginalis* (WIEDEMANN), 1830: 482.

Type female in collection labelled "Cap. coll. WINTHEM". The specimen is in good condition except that the middle portion of the mesonotum is obscured by a droplet of glue around the pin.

This belongs in the genus *Craspedoxantha* BEZZI. It was placed here by BEZZI, 1913: 156. Two other specimens are in the collection determined as *marginalis* by HERING from Tanganyka.

*Dacus (Strumeta) umbrosus* FABRICIUS, 1805: 274

*Dacus fascipennis* WIEDEMANN, 1819: 28.

The type male of *fascipennis* is from Java and is in excellent condition. This equals *D. umbrosus* FABRICIUS and confirms that synonymy. Refer to HARDY and ADACHI, 1954: 184.

*Dectodesis confluens* (WIEDEMANN)

*Trypeta confluens* WIEDEMANN, 1830: 510.

*Trypanea tristicula* HENDEL, 1914a: 82.

*Dectodesis confluens* (WIEDEMANN), MUNRO, 1957: 1044.

Four specimens of this species are in the collection, one female and three males, from Mozambique. All are labelled "type". The female specimen contains the original handwritten label of HENDEL and I am selecting it as the lectotype. This is a synonym of *Trypeta confluens* WIEDEMANN and is under this species in the collection. This synonymy has apparently not been recorded in the literature. It was probably determined by HENDEL.

*Eurosta lateralis* (WIEDEMANN)

*Trypeta lateralis* WIEDEMANN, 1830: 479.

*Trypeta donysa* WALKER, 1849: 1007. New synonym.

*Eurosta nicholsoni* BENJAMIN, 1934: 27, fig. 19, A—M. New synonym.

The type male is in good condition except that two legs, one antenna, and a good share of the body bristles have been lost. The specimen contains only the label "Indien" and a second label "*lateralis*, Alte Sammlung" and also contains a type label. The original description gives no type locality ("Vaterland?"). BEZZI, 1913: 74, listed *lateralis* under his Critical Review of the Oriental and Australien Trypaneids but stated that the type locality was unknown. This is not an Indian species. It fits none of the oriental species known to me and I am certain that the label on the specimen is incorrect. This is a North American species and is identical with *Eurosta nicholsoni* BENJAMIN, 1934: 27, and with *Trypeta donysa* WALKER, 1849: 1007. These are new synonyms of *E. lateralis* (WIEDEMANN). The specimen appears to fit BENJAMIN's original description and figures in all details. The synonymy of *nicholsoni* with *donysa* was recorded by FOOTE (1964a: 61 and 1964b: 321).

The species has been adequately described and figured by BENJAMIN. This is a gall-former on the stems of golden rod (*Solidago*). BENJAMIN's records were all from the State of Florida.

*Metaspheniscus? nigricans* (WIEDEMANN), new combination

*Trypeta nigricans* WIEDEMANN, 1830: 509.

Two female cotypes in collection, one labelled "65, coll. WINTHEM", and the other labelled only "*nigricans*, Alte Sammlung". WIEDEMANN in the original indicated that the locality was unknown. I have designated the second of these two specimens "Alte Sammlung" as the lectotype. This species is in the collection under the name *Aciura* ROBINEAU-DESVOIDY. It does not belong in this genus, it differs by having four scutellar bristles as well as in many other ways. This seems to belong in the genus *Metasphenisca* HENDEL although I am unable to find anything in the collection before me which appears related to *nigricans*. It differs from other species at hand by having five pairs of lower fronto-orbital bristles and having only two transverse hyaline marks in the posterior portion of the wing. The occipital row of bristles are dark brown. The occipital bristles are supposed to be yellow in *Metasphenisca*. This is probably an African species.

*Pardalaspis punctata* (WIEDEMANN)

*Trypeta punctata* WIEDEMANN, 1830: 485.

The type male from Guinea is in the collection. It had not been labeled as type, however, and I have designated it as such. This had been determined as *Ceratitidis capitata* by LOEW and was in the collection as a synonym of that species. This is, however, a *Pardalaspis* and was treated under that genus by BEZZI, 1924a: 102. In the original, WIEDEMANN indicated that the type was in the Royal Museum at Copenhagen. The specimen at hand, however, from Guinea, from the WINTHEM collection is certainly the type. It contains

WIEDEMANN'S original handwritten label "*punctata* WIEDEMANN". It should be noted that BEZZI (*loc. cit.*) treated *Tephritis senegalensis* MACQUART as a synonym of *punctata*.

### A. da Costa Lima

#### *Lucumaphila zernyi* (COSTA LIMA)

*Anastrepha zernyi* COSTA LIMA, 1934a: 425, pl. 62, figs. 2–3.

A cotype female is in collection labelled "Brasilia" with a second label "*parallelus*, coll. WINTHEM". The specimen is in excellent condition except that the mesonotum has been broken at the site of the pin.

STONE, 1939a: 348, has placed this in the genus *Lucumaphila*. He said that the cotype female of *Dacus parallelus* WIEDEMANN in the Naturhistorisches Museum is the holotype of *zernyi*.

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