

Irena DWORAKOWSKA

The genus *Wiata* DWOR. (*Auchenorrhyncha*, *Cicadellidae*, *Typhlocybinae*) in the Ethiopian Region

[with 186 text-fig.]

Rodzaj *Wiata* DWOR. (*Auchenorrhyncha*, *Cicadellidae*, *Typhlocybinae*) w Regionie Etiopskim

Abstract. Review of all known species of the genus *Wiata* DWOR. with descriptions of 13 new species of the nominate subgenus, a new subgenus *Ozecza* with four new species and distinguishing two subspecies of *Wiata* (*Ozecza*) *krasna* sp. n. differing by size and coloured pattern.

The type-series mentioned in this study belong to the following collections:

RL — collection of Dr. R. LINNAVUORI in Raisio (Finland)

BM — British Museum (Nat. Hist.) in London

T — Musée Royal de l'Afrique Centrale in Tervuren (Belgium)

ISEZ — Institute of Systematic and Experimental Zoology, Polish Academy of Sciences in Kraków.

At the certain description the owner of the holotype takes the first place.

The genus *Wiata* DWOR. was described by me (1972) basing on a single male specimen being slightly damaged. Now a more complete description of the genus and also a redescription of the type-species are given.

Wiata DWOR. seems to be represented by a number of species in Ethiopian and Oriental regions. Basing on the structure of male genital apparatus two subgenera can be distinguished in the Ethiopian Region. The newly described subgenus *Ozecza* being more differentiated morphologically in comparison with the nominate subgenus suggests the supposition that it is grouping forms resembling elder evolutionary stems of the genus. Two species described later (1977) from Vietnam belong to other subgenus than the nominate one. They were, however, described basing on females only and for that their subgeneric affiliation can not be indicated for the time being.

Wiata (s. str.) DWORAKOWSKA, 1972

Type-species: *Wiata pallida* DWORAKOWSKA, 1972

Vertex quite long, produced in the middle (fig. 8), often longer in female (compare fig. 126 with fig. 130), eyes large. Coronal suture distinct. Face quite

short (fig. 3) and broad (fig. 7). Apical *cu* vein in fore wing joined with transverse vein between junction of longitudinal *m* and *r* veins with the transverse vein (fig. 13), sometimes apical *cu* is joined just the opposite of longitudinal *m* vein (fig. 105) and sometimes apical *cu* vein is stalked with apical *m+r* veins (fig. 51 and 87). Hind wing quite narrow in apical part (fig. 6), wing membrane and veins light.

Genital capsule (fig. 1) cylindrical, slightly compressed laterally. Anal tube a bit protruding beyond pygophore lobe. Subgenital plate expanding far beyond hind margin of the lobe, it is recurvate in apical 1/3.

Pygophore side (fig. 2) provided with well developed lower appendage and a sclerotized ledge on its inner side. The ledge ranges from base of the appendage to the conjunction of the anal tube. Surface of the pygophore lobe is ornamented with teeth sculpture near upper margin. Setosity consists of several thin long microsetae scattered in lower basal part of the lobe.

Subgenital plate large, light except apical part of ventral margin and apex (fig. 10) which are blackish. Sculpture reduced, it is hardly visible only in apical part of the plate. There are two big stout macrosetae, one of them is situated in the nearness of base of pygophore side (fig. 1) and the other one just before bending of the plate. The other setae placed on ventral side of bent part of the plate are thickened like macrosetae in some species or are thin and almost hair-like in the others. In *Wiata* (s. str.) *prima* sp. n. both types of setae are present there (fig. 4). Marginal microsetae are short, thin and rigid in apical part and very long and hair-like on the straight part of the plate. In the area before the curving of plate just near the hind lower angle of pygophore lobe the row of marginal hair-like microsetae becomes multiplied.

Penis (fig. 11, 15) with a narrow praeatrium, distinct atrial lobe and rather tubular, sclerotized stem and ventral or apical gonopore. There are often some appendages at base of the stem or rather on the atrial rim. In one known case there are no appendages and in the other the lateral appendages are situated at tip of the penis stem (fig. 101, 102).

Paramere (fig. 12) with very short basal part, large apical hook and one to several (usually two) hair-like setae on outer side. There are well visible conspicuous "bases of setae" on inner dorsal margin of the paramere.

Connective lamellate, short (fig. 5, 9) with sclerotized ledges at sides and a small central lobe.

Abdominal apodemes (fig. 14) well developed.

Wiata (s. str.) *pallida* DWORAKOWSKA, 1972

(fig. 10—20)

Ground greyish-testaceous. All specimens examined in this study were preserved in alcohol and then dried. For that all natural colours have been lost except blackish-brown pigment (fig. 16). Colouration of head and thorax probably is similar to that of *Wiata* (s. str.) *obtusa* sp. n. (fig. 8). There are large

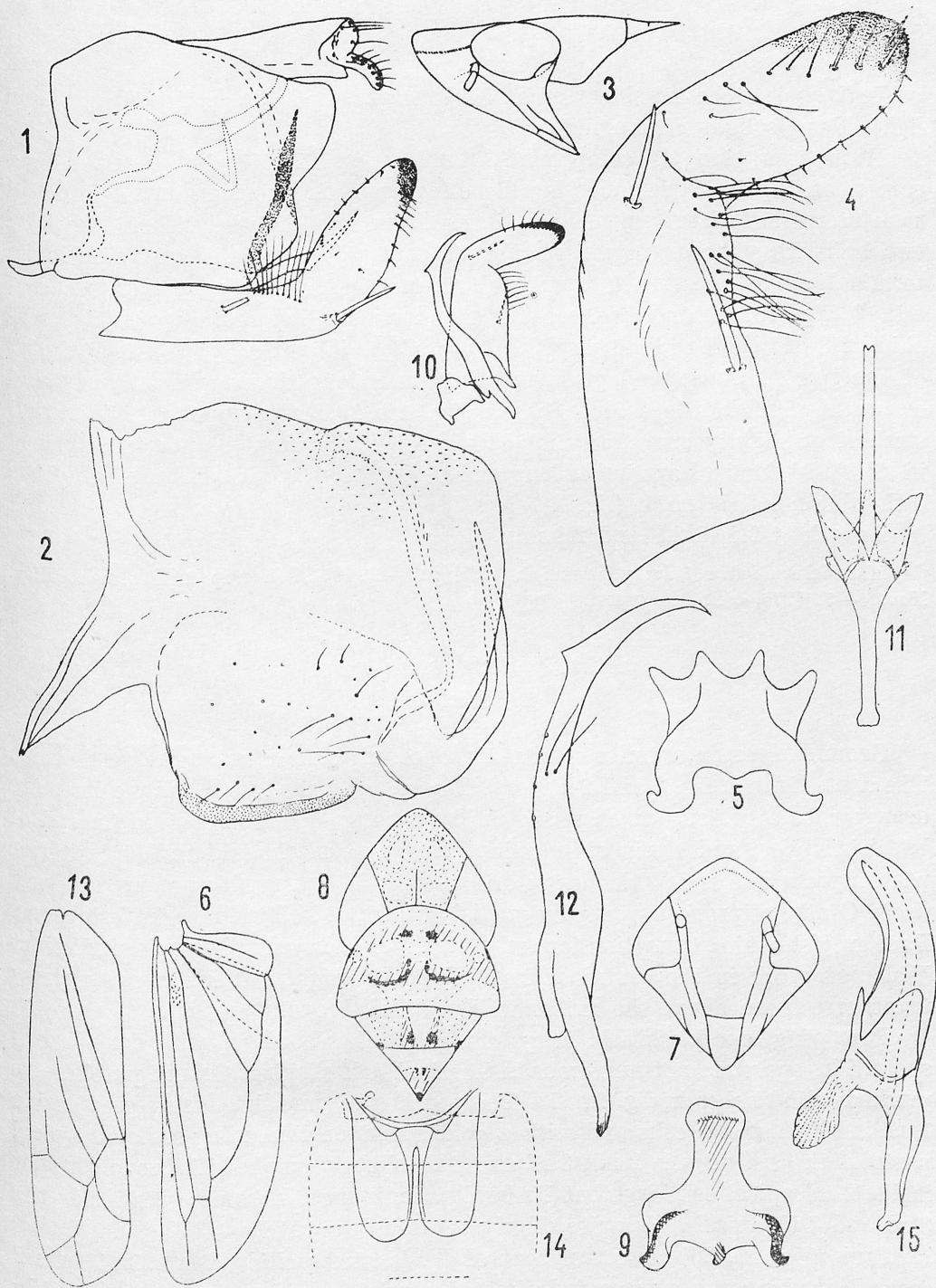


Fig. 1—15. *Wiata* (s. str.) *distincta* sp. n., 1 — anal block, 2 — pygophore side; *W.* (s. str.) *prima* sp. n., 3 — head and thorax, side view, 4 — subgenital plate, 5 — connective, 6 — hind wing, 7 — face; *W.* (s. str.) *obtusa* sp. n., 8 — head and thorax, dorsal view; *W.* (s. str.) *musica* sp. n., 9 — connective; *W.* (s. str.) *pallida* DWOR., 10 — proportions of subgenital plate, paramere and connective, 11 — penis, posterior view, 12 — paramere, 13 — venation of fore wing, 14 — abdominal apodemes, 15 — penis, side view

white (ivory) patches at sides and at hind margin of pronotum. Tip of scutellum light. Female lighter than male.

Penis stem strongly compressed laterally (fig. 11, 15). Atrial appendages consist of unpaired triangular lamella clinging to the stem on dorsal side and two lateral lamellate appendages divergent from each other. There are only two hair-like setae on paramere (fig. 12) and apical hook is very thin in its terminal part. Apical part of subgenital plate bearing only hair-like "macrosetae" (fig. 10). Connective without manubrium. Pygophore appendage reaching $2/3$ of height of hind margin of pygophore lobe (fig. 17, 18). Apical part of the pygophore appendage is tapering on a long distance from apex and ornamented with ledges more basad (fig. 19, 20). The appendage is rather straight or slightly curved cephalad apically (in fig. 20 the apex is displaced in slide). Abdominal apodemes long and moderately broad, reaching $1/4$ of the 5th abdominal sternite (fig. 4).

Length ♂ 2.8, ♀ 2.8 and 2.9 mm.

Material studied. 1 ♂, Ivory Coast, Lamto, Jan. 26—27, 1971, light trap; 2 ♀♀, same locality, Nov. 4—5, 1970, coll. A. POLLET.

Wiata (s. str.) *obtusa* sp. n.

(fig. 8, 21—30)

Ground of vertex, anterior margin of pronotum and basal triangles, testaceous. The areas light in fig. 8 and 24, ivory. The areas marked with oblique lines are orange with a golden tint on pronotum and orange-ochre on scutum (mesad of basal triangles) and at tip of scutellum. Brownish marks indistinct in anterior part of pronotum and at the centre of scutellum, the remaining patches are very dark. Centre of pronotum usually greyish, centre of its hind margin testaceous. Face greyish-white, transition toward vertex ivory. An ochre-brownish indistinct V-shaped mark in the centre of frontoclypeus. Bright reddish-orange narrow transverse fascia above the antennae. Eyes dark brown.

Fore wing broad, whitish. Large orange patches bordered with dark brown spots. The spots are not numerous in terminal half of wing. Orange patches are marked with dashes in fig. 22, 23. The patches become light ochre-grey inside 1st and 4th apical cells and with a golden tint on remaining surface. Apical parts of the apical cells 2nd, 3rd and 4th slightly smoked. A brownish spot inside 2nd apical cell large but its borders indistinct. In some cases inside the 3rd and 4th apical cells quite clearly ochre-yellow patches.

Penis (fig. 27, 30) resembles that of *W.* (s. str.) *pallida* DWOR. but lateral appendages longer, narrower and directed parallel to each other and are closely clinging to the stem. Pygophore appendage (fig. 21) short, bluntly terminated and ornamented with short helically arranged ledges (fig. 29).

Length ♂ 2.9—3.2, ♀ 3.1 mm.

Holotype male, Nigeria, NE State, Sorti, Aug. 20. Paratypes. 2 ♂♂, Nigeria, BP State, Katsina Ala, Aug. 19; 1 ♂, Central African Republic, Bossangoa Bossembele, June 2; 1 ♂,

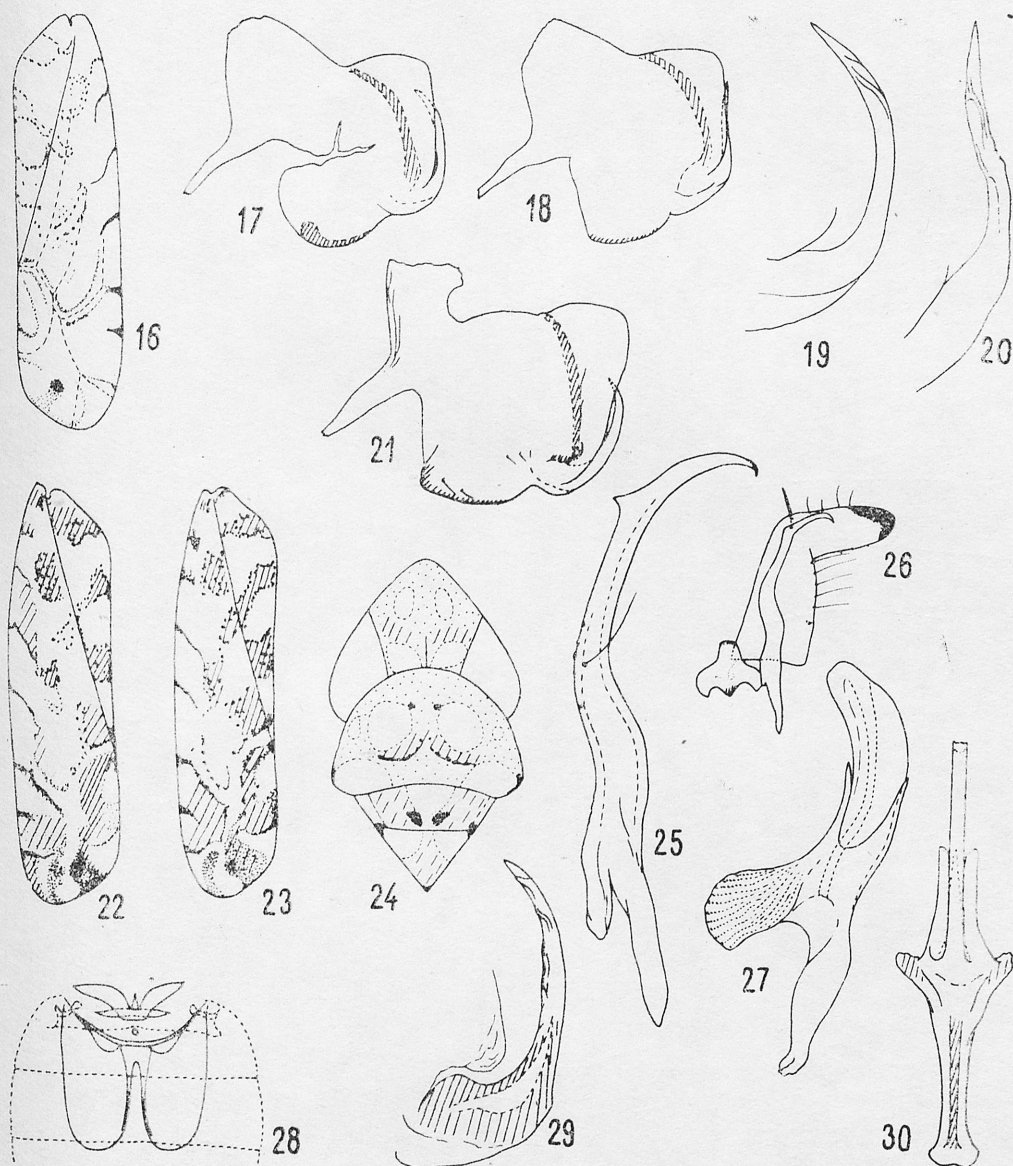


Fig. 16—30. *Wiata* (s. str.) *pallida* DWOR., 16 — fore wing of the holotype, 17 and 18 — proportions and scheme of pigmentation of pygophore side with appendage, 19 — and 20 — pygophore appendage in slide; *W.* (s. str.) *obtusa* sp. n. 21—30, 22 — wing of male, 23 and 24 — female

Togo, Anié, Sep. 11—12, all collected in 1973 by R. LINNAVUORI. Paratype ♀, Nigeria, K State, N Bussa, Jan. 12, 1970, coll. J. T. MEDLER.

(RL).

Wiata (s. str.) *musica* sp. n.

(fig. 9, 31—37)

Vertex testaceous-grey, whitish patches as seen in fig. 31. Pronotum testaceous-grey anteriorly, more grey in the centre, dirty whitish at hind margin.

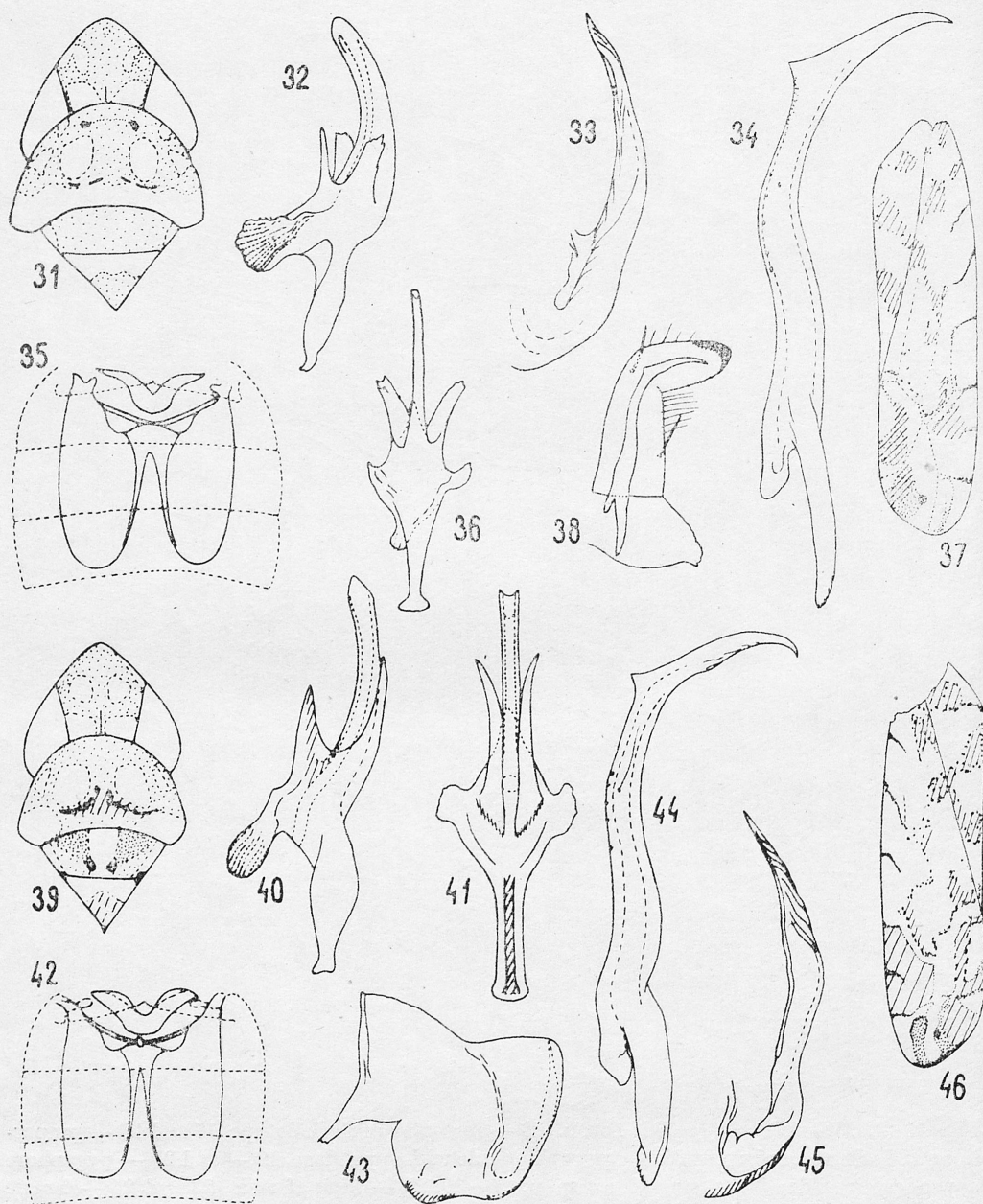


Fig. 31—46. *Wiata* (s. str.) *musica* sp. n., 31—37; *W.* (s. str.) *bebedja* sp. n., 38—46, 38 — proportions of subgenital plate, paramere, connective and 9 th abdominal sternite

Ivory patches at the centre and at anterior margin behind eyes. There are two infuscated patches at sides of the midline in anterior part of pronotum. Two short, interrupted dark brown lines behind big ivory patches. Scutum and hind part of scutellum grey; sides of scutum and anterior part of scutellum ivory. There is a distinct russet transverse fascia on frons. Eyes brownish.

Pattern of fore wing as in the majority species of the subgenus. Coloured patches on clavus and near part of corium light orange, bordered with small dark brown dots (fig. 37). Patches inside 1 st and 2 nd apical cells smoky, partly slightly russetish.

Male genital apparatus resembles that of *W. (s. str.) pallida* DWOR. very much but penis stem slim (fig. 32) and lateral appendages narrow in posterior view and arcuately deviate from the penis stem (fig. 36). Apical part of paramere quite thick (fig. 34).

Length ♂ 3.3 mm.

Holotype male, Sudan, Equatoria, Loka forest, Apr. 8—10, 1963, coll. R. LINNAVUORI. (RL).

Wiata (s. str.) bebedja sp. n.

(fig. 38—46)

Ground of vertex and pronotum testaceous. Light areas seen in fig. 39, ivory, these marked with oblique lines, orange. Spots forming short lines behind large ivory patches on pronotum, dark brown. There are four patches in hind part of scutum. Basal triangles testaceous-grey. Apical part of scutellum testaceous-orange or orange, its very tip blackish. Eyes dark brown. Sometimes the area between light patches of each side of vertex and that in front of large light patches on pronotum, yellow-orange. Face dark testaceous, lighter apically. Border of vertex ivory. An orange narrow transverse fascia situated much above the bases of antennae.

Fore wing light. Dark marks brown basally or smoky apically. Colouring patches orange (marked with dashes in fig. 46). Apical cells infuscated in yellowish-grey (marked with dashes) or greyish (spotted). Sometimes the orange areas on clavus larger than shown in fig. 46.

Penis (fig. 40, 14) resembles that of *W. (s. str.) musica* sp. n. but the stem is almost straight and lateral appendages longer and directed upwards on almost whole of their length. Pygophore appendage (fig. 43, 45) quite similar to that of *W. (s. str.) musica* sp. n. Abdominal apodemes (fig. 42) large but shorter than in the previous species.

Length ♂ ♀ 0 mm.

Holotype male, Nigeria, NC State, Zaria, Aug. 2—3. Paratypes. 1 ♂, Nigeria, NE State, Gembu — Yelwa, Aug. 22; 3 ♂♂, NE State, nr. Lankoviri, Aug. 24; 1 ♂, Chad, Bebedja, May 28—31. All collected in 1973 by R. LINNAVUORI.

(RL, ISEZ).

Wiata (s. str.) distincta sp. n.

(fig. 1, 2, 47—54)

Vertex testaceous with whitish patches as in fig. 47. Ground of pronotum testaceous. Sides of hind margin, patches at anterior margin behind eyes and two big patches at the midline in the centre of pronotum, ivory. An interrupted

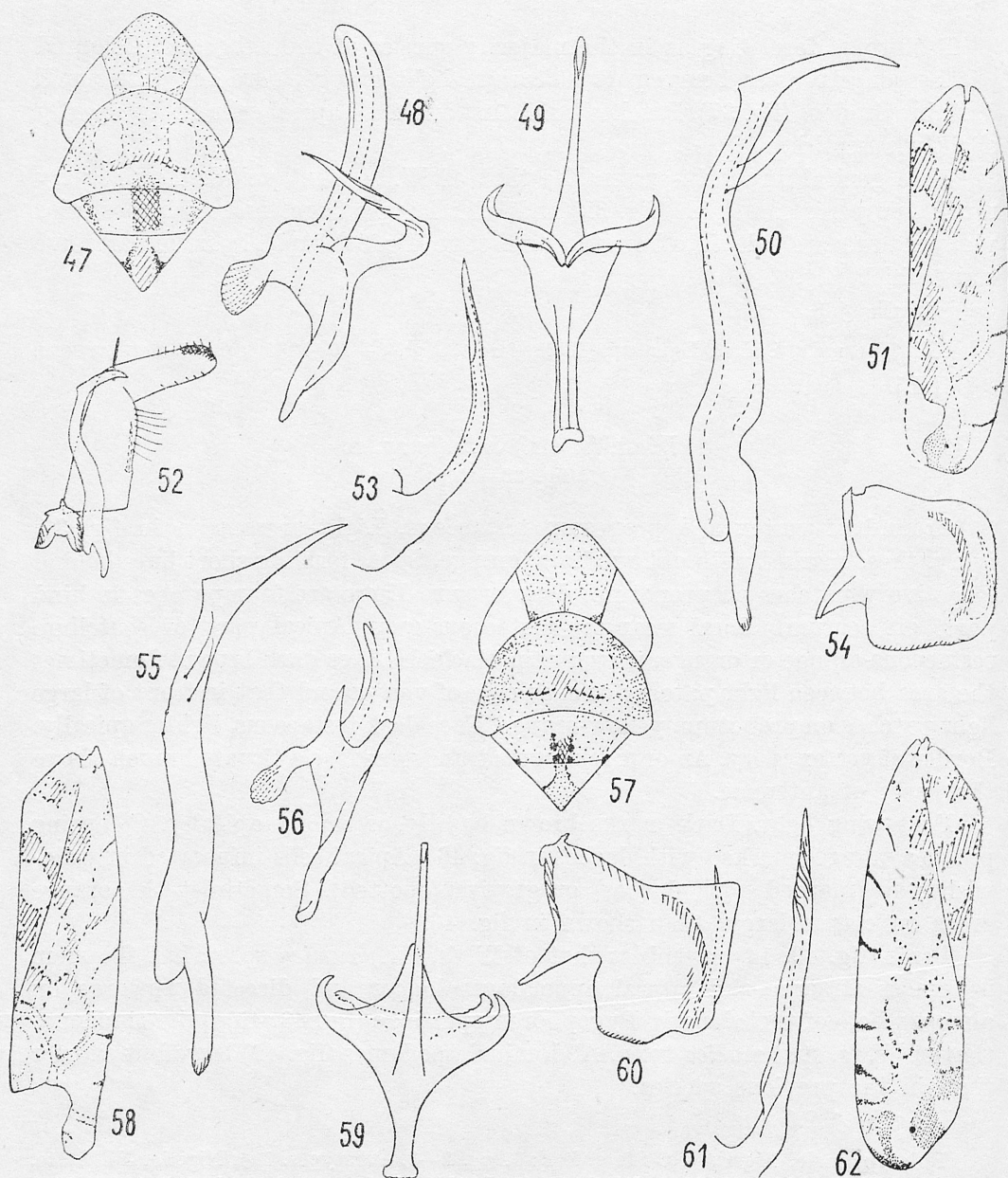


Fig. 47—62. *Wiata* (s. str.) *distincta* sp. n., 47—54; *W.* (s. str.) *candelabrica* sp. n., 55—62

brown transverse line behind large ivory patches surrounded with an ochre shade. Centre of scutum and outer margins of basal triangles brownish, the remaining areas dirty white. Central streak on scutellum and a patch in its hind part ochraceous (infuscated with brownish at sides). Two large light patches at anterior margin of scutellum white. Face testaceous with indistinct russetish transverse fascia on frons. Eyes brownish.

Fore wing light. Colouring patches (marked with dashes in fig. 51) orange, distinctly darker on clavus.

Male genital apparatus resembles that of *W. (s. str.) candelabrica* sp. n. but penis stem is much slimmer, almost straight, dorsal tooth at base of penis stem absent (fig. 49) and lateral appendages much longer and directed mostly cephalad (fig. 48). Pygophore appendage shorter in comparison with *W. (s. str.) candelabrica* sp. n., tapering, slightly arcuated (fig. 53, 54).

Length ♂ 3.2 mm.

Holotype male, Sudan, Equatoria, Loka forest, Apr. 8—10, 1963, coll. R. LINNAVUORI. Paratype ♂, Zaire, Lubumbashi "Elisabethville", Feb., 1950, coll. Ch. SEYDEL.

(RL, T).

Wiata (s. str.) candelabrica sp. n.

(fig. 55—62)

Ground of upper side of body light grey. Anterior margin of vertex and light patches seen in fig. 57, ivory. Centre of pronotum slightly yellowish. There are two oblique lines on pronotum, each consisting of brown dots. Some dark brown patches at hind margin of scutum. Two ivory patches on sides at anterior margin of scutellum; sometimes confluent. Eyes testaceous-brown. Face mainly grey. A narrow orangeous transverse fascia situated much above bases of antennae just at the border of ivory area at the transition to vertex.

Fore wing semitransparent, light grey. Ochre-yellow patches on clavus and near part of corium (marked with dashes in fig. 58, 62) bordered with small blackish-brown dots.

Penis of this species is provided with distinct dorsal atrial tooth and quite big lateral appendages (fig. 56, 59). Penis stem slightly curved cephalad, compressed laterally. Lateral penis processes tapering apically, they are horizontal at their bases then suddenly bent up mesad (fig. 59). Pygophore appendage almost straight (fig. 60), ornamented with minute furrows running helically at the apex (fig. 61).

Length ♂ 3.11—3.4 mm.

Holotype male, Sudan, Equatoria, Loka forest, Apr. 8—10, 1963. Paratypes. 1 ♂, Chad, Bebedja, May 28—31, 1973; 1 ♂, Central African Republic, Bossangoa Bossembele, June 2, 1973. All collected by Dr. R. LINNAVUORI.

(RL).

Wiata (s. str.) bera sp. n.

(fig. 63—71)

Ground of vertex and pronotum light testaceous-yellow. There are two ivory patches at sides of vertex and the other patches of the same colour at anterior margin, at sides and on both sides of midline of pronotum (light in fig. 63). Centre of hind margin of pronotum greyish. There are indistinct brownish line

parallel to the anterior margin of pronotum and dark brown dots forming a complicated pattern. Scutum and scutellum dark brown with reddish tint, outer margins blackish. There are four white triangular patches on scutum and scutellum. Eyes testaceous-grey. Face whitish or yellowish-white, an indistinct mark of brownish transverse stripe on frons. Lower margin of eye with a horizontal brownish streak. The streak passes to lateral lobe of pronotum (visible in lateral aspect).

Fore wing dull, whitish, very contrastly coloured. Dark pattern seen in fig. 68, brown. The 1st apical cell testaceous-brown with darker spots. The ground is slightly brownish at the thickly packed brown dots in tip part of clavus at suture. Apical parts of the 2nd and 3rd apical cells slightly testaceous yellow. Light orange-yellow patches are marked with dashes in fig. 68. The area at costal margin slightly creamy. Wax-field sometimes yellow. Hind inner angle of clavus marked with brown.

Penis stem (fig. 64) quite long, curved, compressed laterally, provided with lateral appendages which are tapering. In posterior view the appendages are running side by side and divergent from each other apically (fig. 65). Pygophore appendage quite long (fig. 71) strongly sinuate and tapering apically (fig. 67).

Length ♂ 2.7 and 3.0, ♀ 3.0 mm.

Holotype male, Niger, Niamey, Nov. 9. Paratypes. 1 ♂, 1 ♀, Nigeria, K State, Wudil-Kari, May 17. All collected by Dr. R. LINNAVUORI in 1973.

(RL).

Wiata (s. str.) *tepa* sp. n.

(fig. 72—80)

Ground of vertex, anterior part of pronotum and centre of hind margin of pronotum, testaceous. Sides of hind margin of pronotum dirty whitish. Four patches on vertex, two big and two small patches on pronotum, lateral margins and centre of scutum and two large triangles at anterior margin of scutellum, ivory. Areas marked with dashes in fig. 72 testaceous-ochre. Two indistinct fuscous marks in front of ivory patches on vertex. There are quite big brown spots bordering ivory patches on pronotum. Two roundish dark brown marks at the midline on scutum and two others at sides at the border with scutellum. Basal triangles testaceous. Eyes dark brown. Face testaceous with brownish marks on frontotypeus and quite broad orange transverse fascia above antennae. Transition vertex to face (just above the transverse fascia), ivory.

Fore wing light, greyish at distal 2/3 of costal margin. Smoked pattern inside 2nd and in part of 3rd apical cell. Coloured pattern (marked with dashes in fig. 77) light ochre on clavus and basal part of corium, light greyish-ochreous inside apical cells. Dark brown spots bordering ochreous patches quite big and often confluent with each other. Costal margin yellowish at outer anterior angle of fore wing.

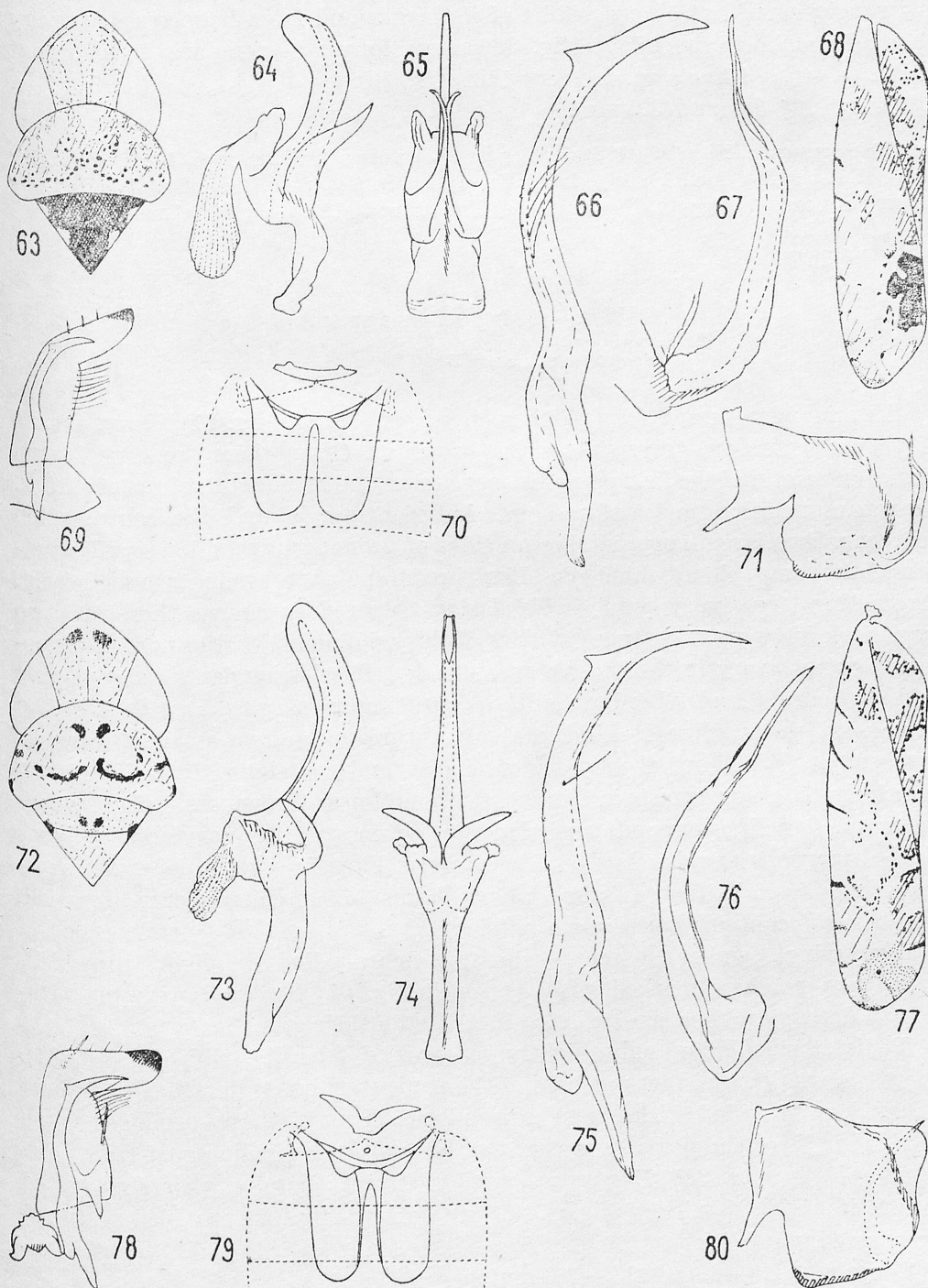


Fig. 63—80. *Wiata* (s. str.) *bera* sp. n., 63—72; *W.* (s. str.) *tepa* sp. n., 72—80

Penis (fig. 73, 74) resembles that of *W. (s. str.) distincta* sp. n. but the stem is strongly curved at about middle of its length and lateral processes are very short. Pygophore appendage (fig. 80) much longer in comparison with that of *W. (s. str.) distincta* sp. n., very thin (fig. 76).

Length ♂ 3.0 and 3.2 mm.

Holotype male, Nigeria, BP State, Gangare Kibo, Aug. 28. Paratypes. 1 ♂, Nigeria, BP State, Katsina Ala, Aug. 19; 1 ♂, Ivory Coast, Lamto, Oct. 8—9. All collected in 1973 by R. LINNAVUORI. Paratype ♂, Nigeria, Zaria, Giwa, Nov. 9, 1975, coll. J. C. DEEMING.

(RL, BM).

Wiata (s. str.) minima sp. n.

(fig. 81—90)

Anterior margin and four patches on vertex (light in fig. 81), ivory. Centre of vertex testaceous-grey, sides ochre-brownish. Often there are dark brown marks anteriorly of the first pair of ivory patches and at sides or at base of vertex. Pronotum mainly greyish-testaceous. Anterior margin and the centre often ochreous. Two large ivory patches on sides of pronotum and often smaller patches of the same colour behind eyes. Dark brown spots arranged in two semicircles surrounding large ivory patches. In darkly coloured specimens there are two large dark dirty brown patches at sides of this midline in anterior part of pronotum. Scutum ivory in the middle and at sides. Basal triangles testaceous-grey or dirty ochre, broadly bordered with ochre at inner margins. Two dark brown patches at the midline in hind part of scutum, often two smaller brownish patches at sides on the border of scutum and scutellum. Scutellum ivory anteriorly, ochre-brownish in hind part (sometimes brownish). The ochre colour on scutellum expands cephalad very often and the ivory area becomes divided to two triangular patches. Eyes brown. Face light testaceous. A narrow transverse fascia situated much above bases of antennae ochre-brownish, sometimes it contains dark brown patches.

Fore wing semitransparent, whitish. Ochre-yellow or light brownish-orange patches (marked with dashes in fig. 87) bordered with blackish-brown dots, numerous similar dots often also on their ground.

Penis stem tubular, only slightly compressed laterally, slim (fig. 83, 84). There is a small atrial tooth at base of the penis stem on its dorsal side. A short manubrium provided with lateral appendages. Tips of the appendages reach half of length of the penis stem (fig. 83). The appendages divergent from each other apically (fig. 84). Pygophore process straight basally, strongly twisted around its axis subapically (fig. 85, 86). Paramere (fig. 82) provided with not pigmented apical crista.

Length ♂ 2.8—2.9, ♀ 2.7—3.0 mm.

Holotype female and paratype ♀, Nigeria, N Bussa, Jan. 19, 1970, coll. J. T. MEDLER. Paratypes. 14 ♂♂, 15 ♀♀, Nigeria, NE State, Jalingo — Lankoviri, Aug. 24; 15 ♂♂, 16 ♀♀, nr.

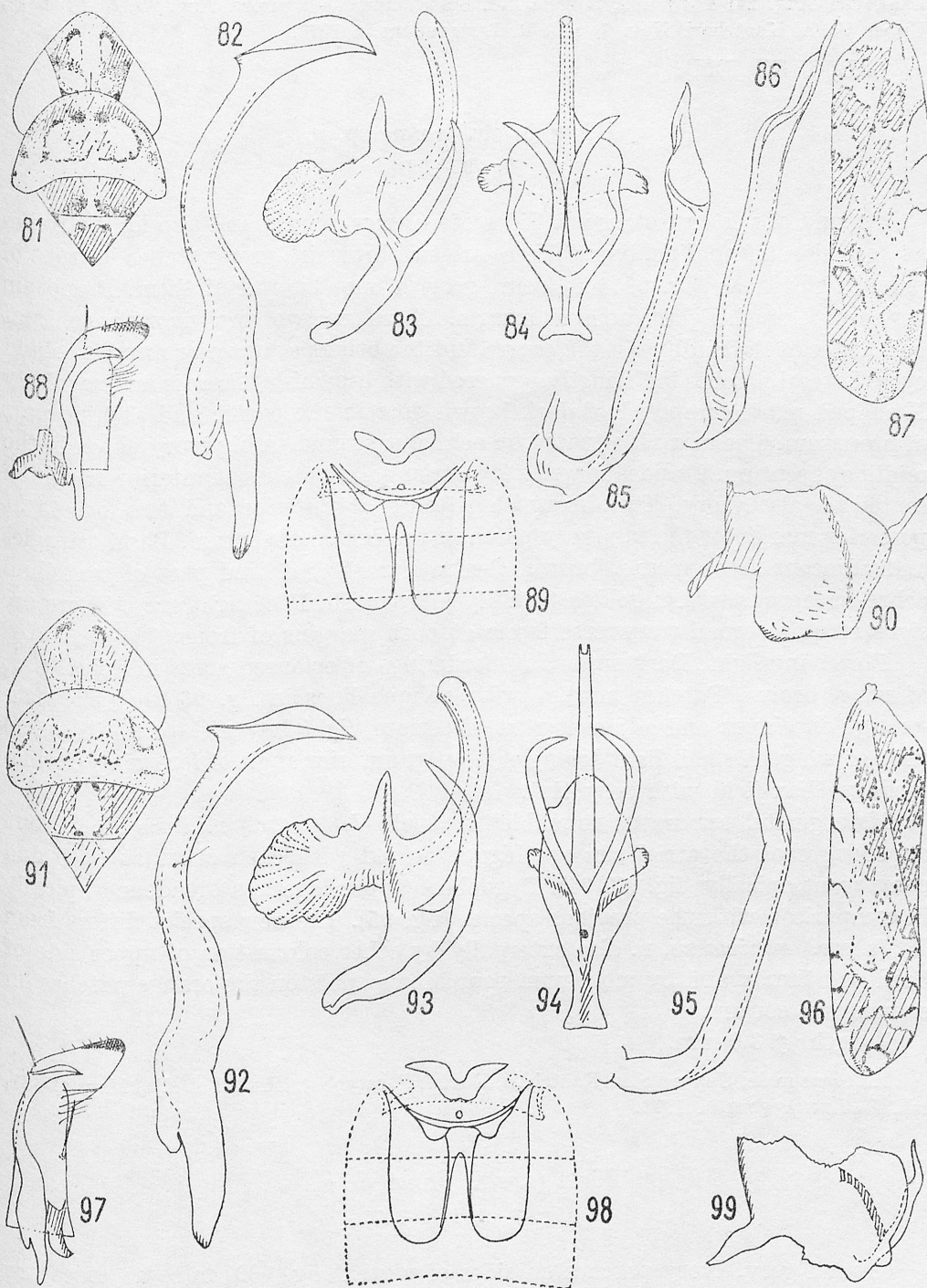


Fig. 81—99. *Wiata* (s. str.) *minima* sp. n., 81—90, 81 and 87 — female; *W.* (s. str.) *voltae* sp. n., 91—99

Lankoviri, Aug. 24; 4 ♂♂, 1 ♀, Nigeria, NE State, Zinna — Ngurore, Aug. 25; 4 ♂♂, 6 ♀♀, Upper Volta, Kantchari, Nov. 7, coll. R. LINNAVUORI in 1973.

(RL, ISEZ, BM).

Wiata (s. str.) *voltae* sp. n.

(fig. 91—99)

Ground of vertex testaceous. Sides of anterior margin and two light patches at both sides of midline, ivory. There are two brownish-grey patches in front of paired light areas (fig. 91) and ochre-greyish ones laterad of them. Pronotum testaceous, much lighter at hind margin. There are two small ivory patches at both sides of the midline in the centre and the others at anterior margin behind eyes. Lateral patches indistinctly bordered with brownish. There is an irregularly X-shaped mark composed of dark brown dots in the centre and at hind part of pronotum. The mark is situated on ochreous ground. A big ivory patch in the midline of scutum. Its sides as well as two triangular patches at anterior margin of scutellum also ivory. Two brownish patches at anterior and two others at posterior margin of the big ivory patch in the centre of scutum. Basal triangles and adjacent areas mesad, brown. Central streak and hind part of scutellum ochre-testaceous with a golden tint. Eyes brownish. Face light grey. There are signs of quite broad transverse fascia at both margins of frons.

Fore wing light. Dark spots and borderings of coloured areas in apical part of wing, brown. Patches marked with oblique lines in fig. 96 are yellowish-orange on clavus and adjacent part of corium, light brownish-ochre in apical part of wing. A small light triangle at outer anterior angle of fore wing citrine-yellow. Wax-field with rosy tint.

Male genital apparatus resembles that of *W.* (s. str.) *minima* sp. n. but appendages of the atrial rim are bigger, joined with each other at base and convergent apically (fig. 93, 94). Pygophore appendage less broadened apically in comparison with the previous species (fig. 95). The new species differs from *W.* (s. str.) *minima* sp. n. also externally by other colouration of upper side of head and thorax and by more numerous brown spots on the orange patches on clavus and corium.

Length ♂ 3.0 mm.

Holotype male, Upper Volta, Kantchari, Nov. 7. Paratype ♂, Chad, Bebedja, May 28—31, coll. R. LINNAVUORI in 1973.

(RL).

Wiata (s. str.) *prima* sp. n.

(fig. 3—7, 100—107)

Ground grey. Ivory patches on sides of vertex (fig. 100) in some cases are fused with each other on each side. Pronotum testaceous with ivory patches approximately as in fig. 100, blackish-brown dots form a transverse line behind the middle of length of pronotum. Scutum and anterior part of scutellum ivory,

basal triangles testaceous-grey. Apical part of scutellum testaceous-yellow. There are two blackish dots at sides of the midline at hind margin of scutum. Eyes brown. Face testaceous with a big V-shaped ochre-brown mark in the centre of frontoclypeus and a narrow brownish-ochre transverse fascia above bases of antennae (fig. 7).

Fore wing ivory with brown-blackish dots bordering ochraceous or ochre-yellow patches.

In male genital apparatus the most characteristic is short penis stem compressed antero-posteriorly in its upper part and provided with lateral appendages apically (fig. 101, 102). Pygophore process thin, directed ventro-caudad (fig. 103, 107).

Length ♂ 3.3 and 3.45 mm.

Holotype male, Sudan, Equatoria, Loka forest, Apr. 8—10, 1963. Paratypes 2 ♂♂, Central African Republic, Bossangoa Bossembele, June 2, 1973, coll. R. LINNAVUORI.

(RL).

Wiata (s. str.) secunda sp. n.

(fig. 108—118)

Vertex provided with one apical roundish blackish patch and two other patches of the same colour at sides near anterior margin. The anterior margin of vertex broadly ivory. There are two ivory patches at each side of midline of vertex, areas between them and laterad of them, ochreous. Anterior part of pronotum testaceous-russetish or even light orangeous. A small patch in the midline at anterior margin of pronotum ivory. Sides, hind margin and two large patches (light in fig. 108, 111) on pronotum, ivory. Distinct blackish patches border both ivory areas as shown in the figures. Centre of pronotum and outer parts of light areas broadly suffused with ochre. Scutum and scutellum ivory, basal triangles and tip of scutellum brown or ochre. Basal triangles sometimes marked with orange mesad. Tip of scutellum sometimes slightly orangeous. There are some brown-blackish marks in hind part of scutum and scutellum. Eyes brown. Face light grey. Two big blackish patches at eyes, much above the bases of antennae.

Fore wing semitransparent, whitish. Large bright orange patches on clavus, greatest part of corium and inside 1 st and 2 nd apical cells bordered with brownish-black dots (fig. 113, 116). Costal margin broadly marked with yellowish. Apical part of 2 nd apical cell rather dirty ochre-yellow, 3 rd and 4 th apical cells of a similar colour.

This species is well distinguishable from the others by its characteristic colouration. Male genital apparatus also differs it from other species of the genus very well. Penis stem strongly compressed laterally (fig. 118), swollen in side view (fig. 112), provided with thin and long atrial processes crossed with each other. Abdominal apodemes (fig. 114) quite small.

Length ♂ 2.6, ♀ 2.9—3.2 mm.

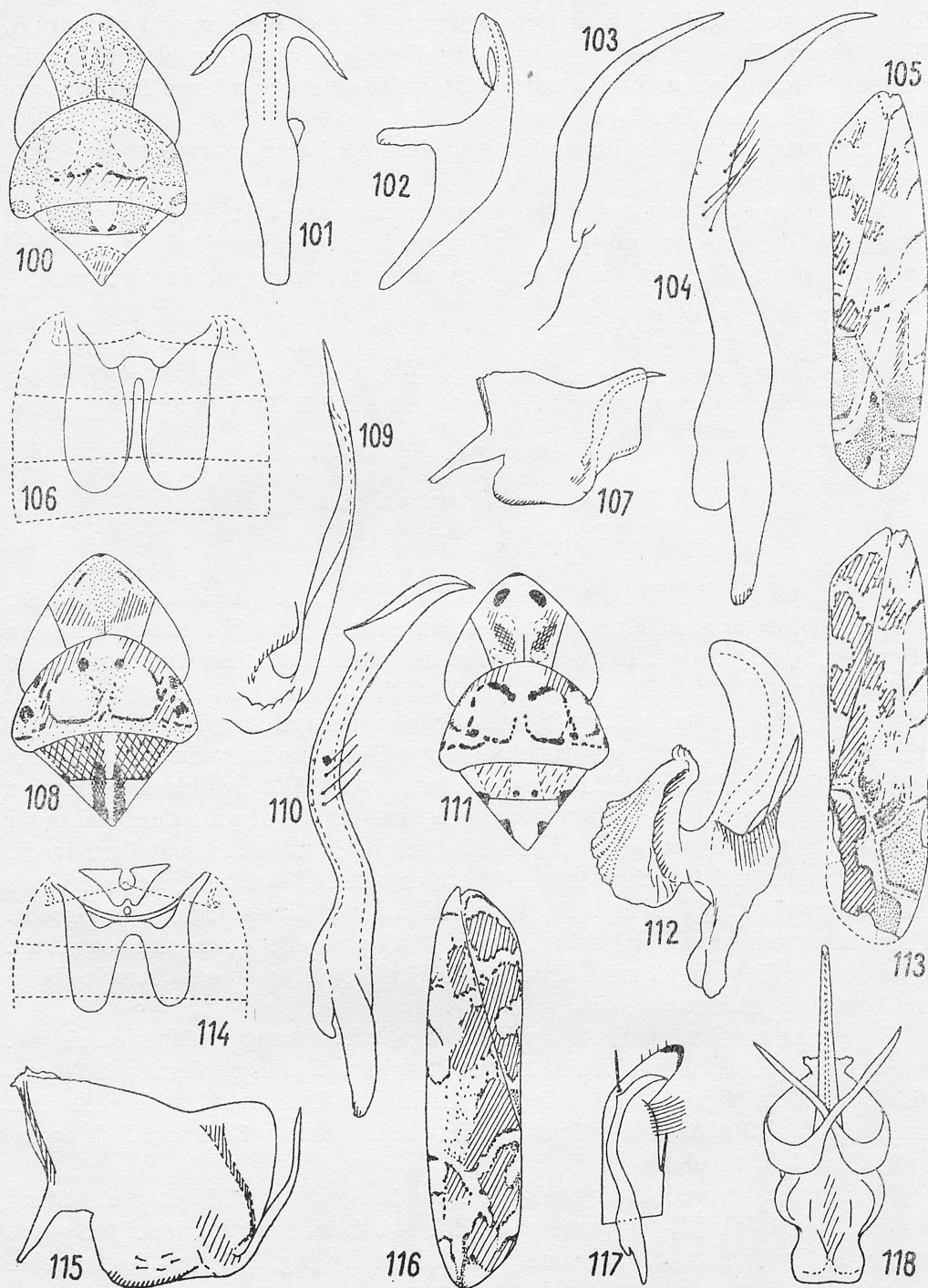


Fig. 100—118. *Wiata* (s. str.) *prima* sp. n., 100—107; *W.* (s. str.) *secunda* sp. n., 108—118, 108 and 113 — female from Tanzania, 111 and 116 — female from Nigeria

Holotype female, Tanzania, Ukerewe I, coll. Father Conrads. Paratypes. 1 ♂, Dahomey, Parakou, Sep. 5—6; 1 ♀, Nigeria, NE State, Jalingo — Lankoviri, Aug. 24; 3 ♀♀, nr. Lankoviri, Aug. 24, coll. R. LINNAVUORI in 1973.

(RL).

Wiata (s. str.) *joannae* sp. n.

(fig. 119—125)

Vertex, anterior 3/4 of pronotum and basal triangles testaceous. Sides of vertex at anterior margin, four patches on it and four patches on pronotum as well as its hind part, sides and centre of scutum and anterior part of scutellum, ivory. The areas marked with dashes in fig. 119 are orange-ochre with a golden tint, these at sides of vertex are slightly brownish. There are numerous dark brown marks on pronotum. Eyes brown. Face light testaceous, its transition to vertex ivory. A transverse fascia on frons brownish-ochre or orange. In pale specimens the ivory patches of each side of vertex often fused with each other.

Fore wing light. It is coloured quite similarly to that of *W.* (s. str.) *lysa* sp. n. but in this species there are quite numerous small dark brown dots on the ground of ochre patches (fig. 124).

Male genital apparatus resembles that of *W.* (s. str.) *lysa* sp. n. but penis stem is arcuate and serrated on dorsal side (fig. 120) and without appendages. Penis base seen in posterior view (fig. 121) smooth. Pygophore appendage (fig. 122) sinuate, slightly broadened subapically. Well developed not pigmented crista on apical hook of paramere (fig. 123).

Length ♂ 2.9 mm.

Holotype male and paratype ♂, Nigeria, NC State, Zaria, Aug. 2—3, 1973, coll. R. LINNAVUORI.

(RL).

Wiata (s. str.) *lysa* sp. n.

(fig. 126—134)

Ground of vertex and pronotum light testaceous to dark testaceous. Colouration very variable. Four ivory patches on vertex as in fig. 126, 130, the basal patches sometimes roundish. Two large ivory areas at both sides of midline at the centre of pronotum and two others at sides. Sometimes lateral ivory patches are expanded antero-posteriorly and divided in the middle of their length. Hind margin of pronotum broadly ivory (fig. 130) or greyish with only small ivory areas at sides (fig. 126). Behind and mesad of the large ivory patches on pronotum rows of small or bigger dark brown patches (fig. 126, 130), in some cases they reach the level of half of length of light areas being expanded cephalad and then directed laterad. The oblique dashes in fig. 126, 130 code orange colour in male and orange-testaceous in female. In other specimens than shown in figures the coloured patch on pronotum can be expanded anteriorly. Anterior margin of

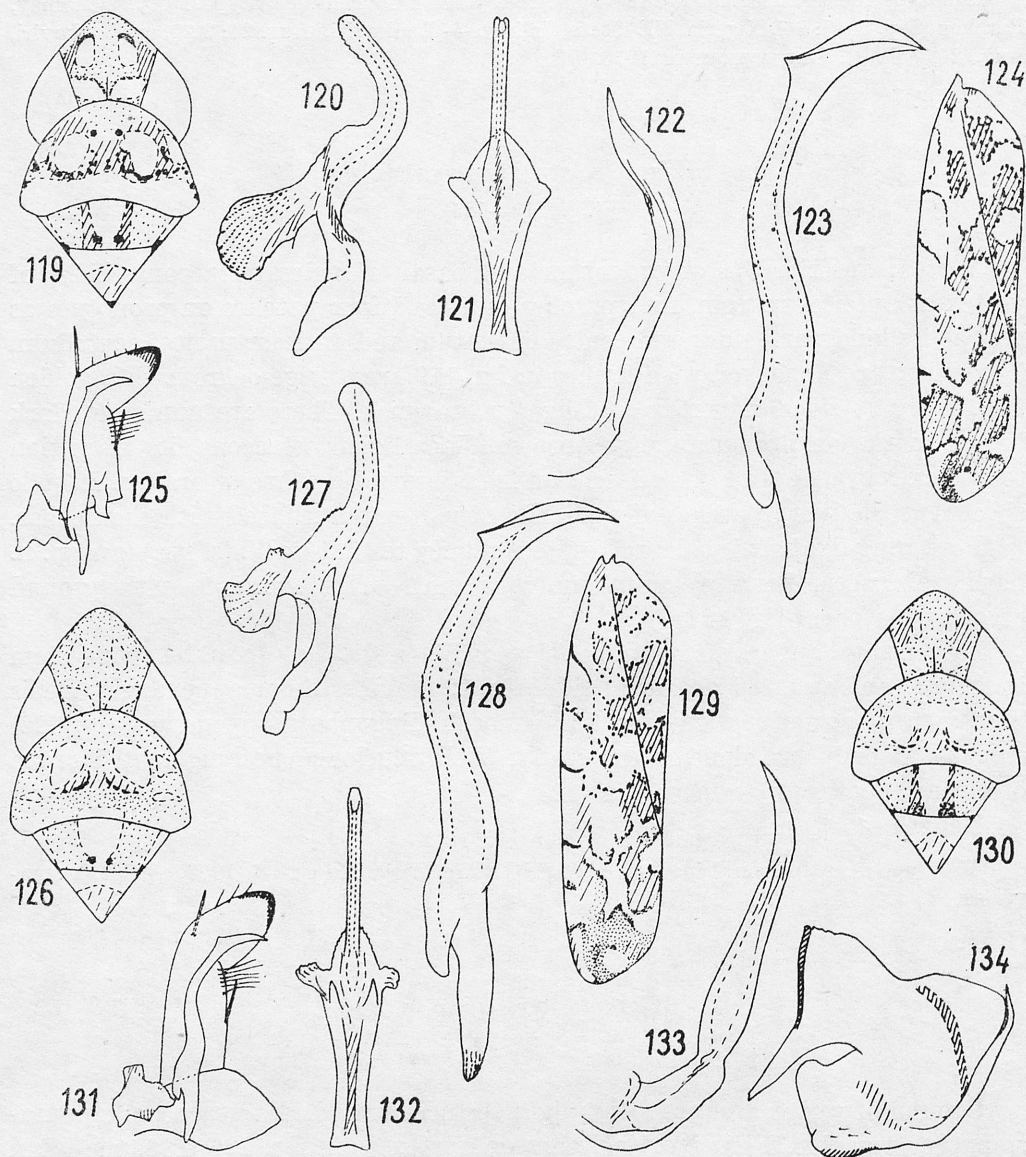


Fig. 119—134. *Wiata* (s. str.) *joannae* sp. n., 119—125; *W.* (s. str.) *lysa* sp. n., 126—134, 126 — female, 130 — male

vertex at sides, sides and centre of scutum and anterior part of scutellum, ivory. Dark brown patches on scutum (fig. 126) sometimes absent (fig. 130). In extremely dark specimens the ground is dark testaceous. In such specimens the light patches at the midline become reduced in size and their area is occupied by orange colour. There are brownish patches in front of anterior ivory marks on vertex and in front of the bigger ivory areas on pronotum (near midline). Dark brown patches arise between anterior and basal ivory patch on each side

of vertex and between lateral ivory patches on each side of pronotum. Dark brown lines of patches in the centre of pronotum are enlarged and the angle at base of vertex near eye is infuscated. Face testaceous, its transition to vertex ivory. Transverse fascia on frons orange, ochre or ochre-brownish. Eyes dark brown.

Fore wing light. Orange areas are marked with dashes in fig. 129, in apical cells they are grey-ochreous. Only a small number of brown dots occupy centres of coloured patches.

Penis of the new species differs from that of the other species of the genus by presence only two short teeth at both sides of atrial rim instead of big appendages (fig. 127, 132). Penis stem thin, slightly curved cephalad, provided with small (serrated ledge on its dorsal side at base. Pygophore appendage (fig. 133, 134) tapering, slightly curved apically. Paramere (fig. 128) with apical not pigmented crista as in *W. (s. str.) joannae* sp. n.

Length ♂ 2.7 and 2.8, ♀ 3.0—3.1 mm.

Holotype male and paratypes 2 ♀♀, Nigeria, NE State, nr. Lankoviri, Aug. 24. Paratypes 1 ♂, 1 ♀, Jalingo — Lankoviri, Aug. 24; 1 ♂, NC State, Kagoro forest, Aug. 29—30. All collected in 1973 by R. LINNAVUORI.

(RL).

***Czecza* sgen. n. of *Wiata* DWOR., 1972**

Type-species: *Wiata (Czecza) krasna* sp. n.

Head smaller and vertex shorter in comparison with *Wiata* s. str. (fig. 139, 155, 156, 172, 178) and face much narrower and longer (fig. 138).

Apical *cu* vein in fore wing joined with transverse vein in the point between longitudinal *cu* and *m* veins (fig. 146).

Hind wing broader than in the nominate subgenus (fig. 140), veins *sc+r* strongly infuscated, membrane at tip of wing smoked.

Colouring pattern of upper side of body more contrastic in comparison with *Wiata* s. str., often red and brown.

Genital capsule proportions as in the nominate subgenus but subgenital plate (fig. 135) only slightly curved subapically.

Pygophore side setosity (fig. 142, 171) well developed. It consists of numerous gracile setae at about basal lower angle and short rigid microsetae scattered at about centre of the lobe (fig. 171) or grouped near base of the appendage (fig. 142, 159, 182). Several gracile setae near upper part of pygophore like in *Wiata* s. str.

Subgenital plate setosity (fig. 137) quite complicated. There is continuous (fig. 136) or interrupted (fig. 137, 143) row of macrosetae, a row or a couple of rigid shorter microsetae (fig. 137, 143) at outer margin of apical part, several short rigid setae at about middle of length of outer margin (fig. 143) and thin gracile setae more basad (fig. 136, 137, 143). Ventral side of tip part of plate usually pigmented with blackish. The ventral surface of the plate covered with distinct sculpture of minute teeth.

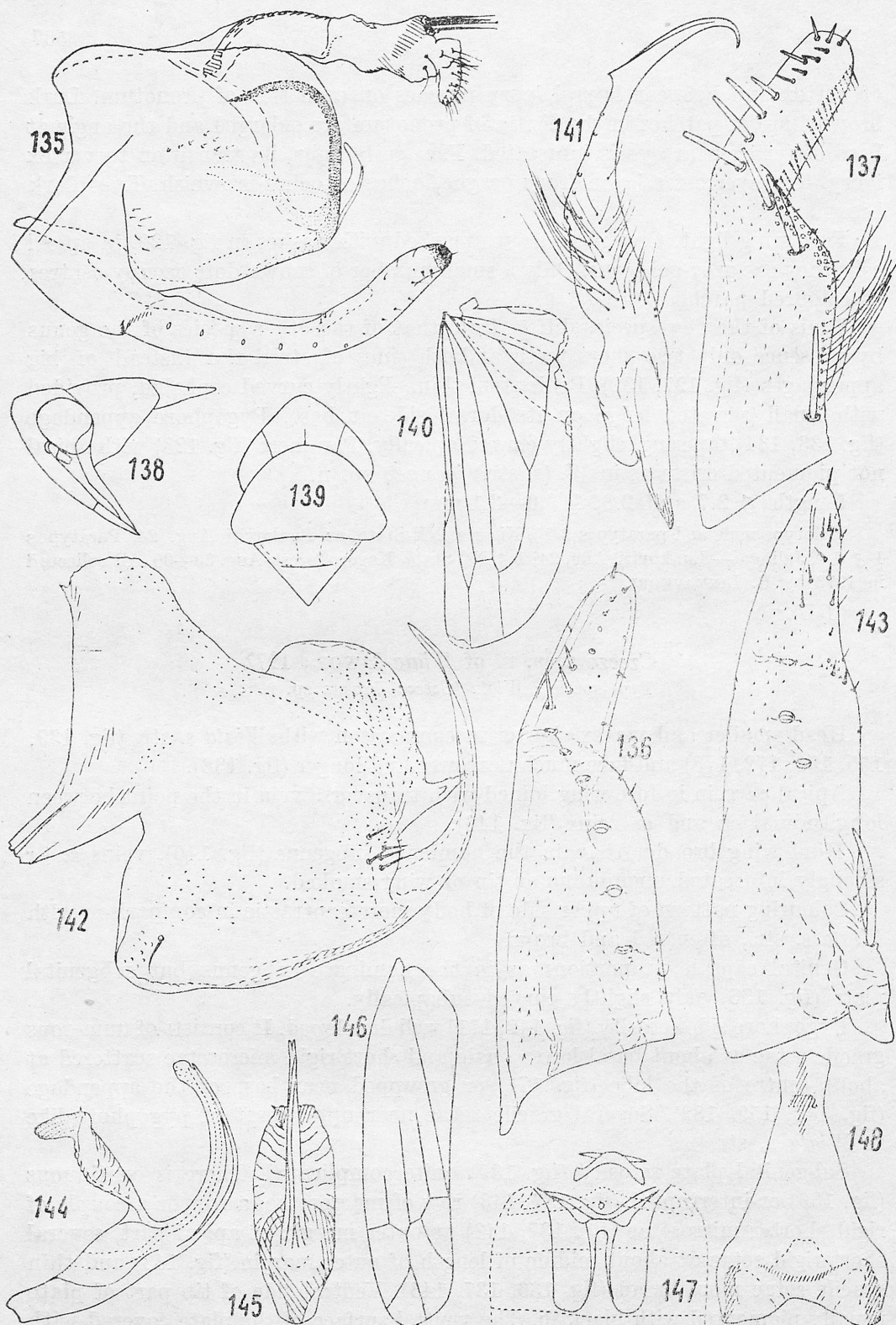


Fig. 135—148. *Wiata* (Czeczka) *gratiosa* sp. n., 135 and 136; *W. (Cz.) schmilzi* sp. n., 137;
W. (Cz.) krasna sp. n., 138—148

Penis with praeatrium larger than in nominate subgenus (fig. 144, 157, 174, 185).

Paramere with apical hook of a moderate size, provided with numerous (fig. 141, 179) or only a few (fig. 162, 168) setae situated along its central part.

Connective (fig. 148, 167) large, central lobe rudimentary.

The subgeneric name is to be treated as an arbitrary combination of letters.

Gender: Feminine.

Wiata (Czecza) krasna sp. n.

(fig. 138—153)

Ground of head and thorax ivory. A yellow-testaceous mark on vertex as in fig. 149. Orange patches on genae below eyes. Two brownish-testaceous patches at anterior margin of pronotum. Sides of pronotum and both sides of its hind margin broadly red (reddish-brown in the centre). There are two (fig. 149) or four ivory areas on reddish ground of sides of pronotum. Scutum and basal triangles red brownish. A short narrow ivory streak in the midline of scutum and two patches at lateral margins. Blackish markings at tips of basal triangles at sides connected with dark patches at corners of scutellum. Hind part of scutellum brown bordered with blackish. There are two ivory patches at sides of scutellum (fig. 149).

Fore wing yellowish-white in basal 2/3, semitransparent apically. Reddish patches at inner margin of clavus and a broad reddish transverse fascia at about its 2/3 (fig. 150). A small semitransparent area in the centre of the fascia. Reddish patches irregularly bordered with dark brown. Brown dots on the semitransparent area of the fascia and on red ground near costal margin. A small brownish dot at tip of clavus and the other at the end of *r* cell. Brownish patches inside apical cells as in fig. 150. Apical *r*+*m* veins and borders of corial *m* and *r* veins brown.

Penis stem (fig. 144, 145) short, arcuated. There are two thin basal appendages ranging parallel to the stem. Pygophore appendage (fig. 142) arcuate. There is a sclerotized protruding of the hind lobe of pygophore side. Paramere provided with very numerous setae scattered on its central part (fig. 141).

Length ♂ 3.2, ♀ 3.2—3.5 mm.

Holotype male, Zaire, Lubumbashi "Elisabethville", at light, Apr. 1949. Paratypes. 1♀, Lubumbashi, March, 1950; 1♀, March, 1953; 1♀ (abdomen lost), May, 1950. All collected by Ch. SEYDEL.

(T, BM).

Wiata (Czecza) krasna insulana ssp. n.

(fig. 154, 155)

Smaller and more brightly coloured than nominate subspecies. There are no differences in male genital apparatus.

Coronal suture marked with orangeous. Sides and hind margin of pronotum

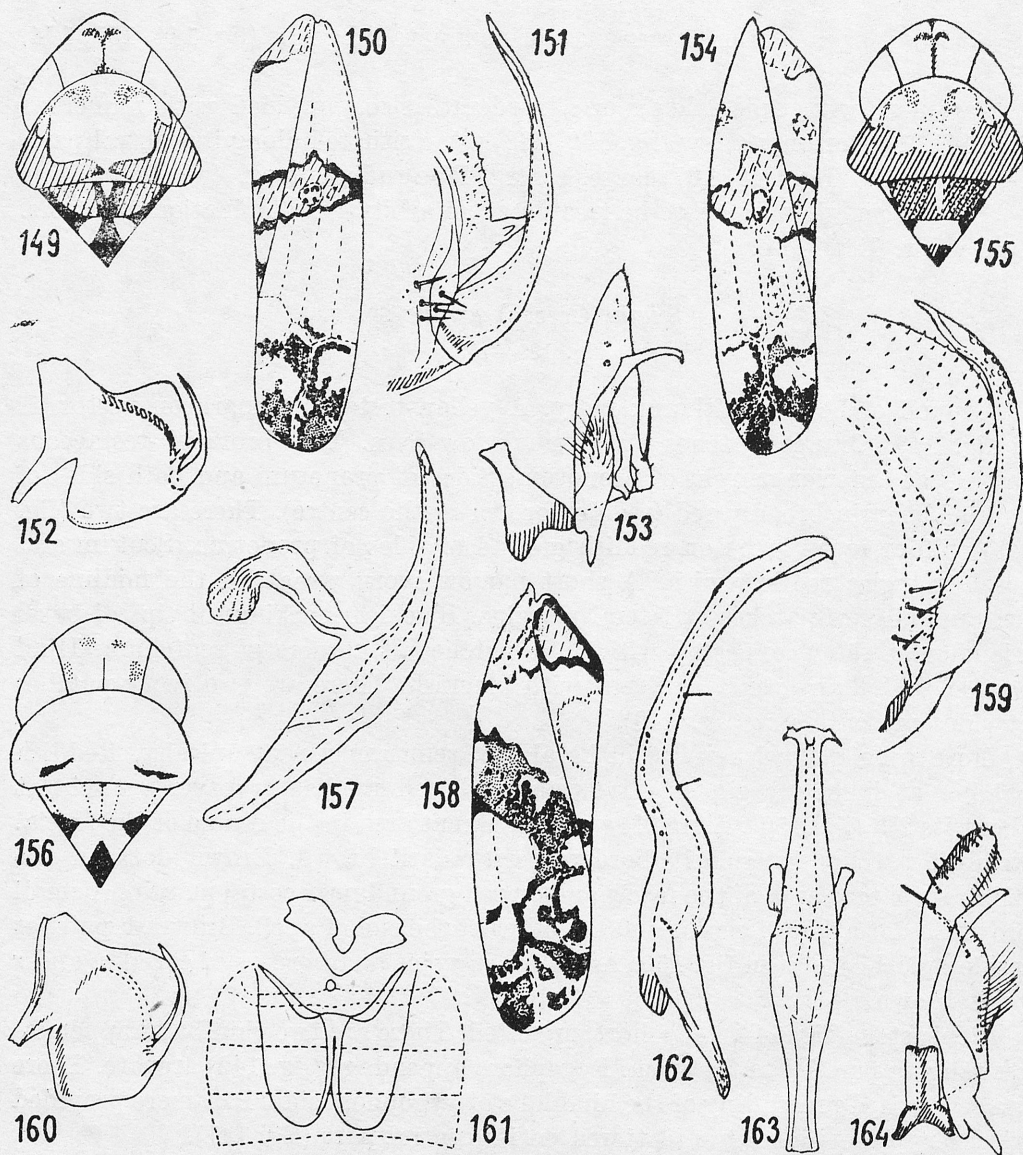


Fig. 149—164. *Wiata (Czeczka) krasna krasna* sp. n., 149—153, 149 — female; *W. (Cz.) krasna insulana* ssp. n., 154 and 155, 155 — male; *W. (Cz.) schmitzi* sp. n., 156—164

broadly bright red (stripped in fig. 155). Scutum red, basal triangles with light brownish tint. An ivory narrow streak in the midline and two ivory patches at lateral corners of scutum. Dark brown patches laterad of apices of basal triangles and similar patches at lateral corners of scutellum. Anterior part of scutellum ivory, the tip bordered with blackish-brown with a red patch mesad.

Fore wing dull yellowish-white. Two distinct yellow patches, one at proximal end of wax-field and the other on clavus. Red patch at inner margin of clavus

larger than in nominate subspecies. The central patch on corium quite broad with a big semitransparent area in the centre (fig. 154).

Length ♂ 2.6—2.9, ♀ 3.0 mm.

Holotype male and paratype ♂, Nigeria, BP State, Gangare Kibo, Aug. 28. Paratypes. 3 ♂♂, 1 ♀, Gangare Kibo, Aug. 5; 1 ♂, NC State, Kagaro, Aug. 7 or Aug. 29—30; 1 ♂, Ivory Coast, Lamto, Oct. 8—9. All collected by R. LINNAVUORI in 1973.

(RL, T, BM).

***Wiata (Czecza) schmitzi* sp. n.**

(fig. 137, 156—164)

The only specimen at my disposal has lost natural colouration of the ground.

Testaceous, scutum and scutellum brownish-testaceous, scutum more brown. Eyes brown. There are some indistinct markings on vertex as shown in fig. 156. On pronotum an interrupted brown fascia parallel to the hind margin. Two triangular and one quadrangular brownish-black patches on scutellum.

Fore wing semitransparent. Brown patches as in fig. 158, dots and some patches darker. At the base of clavus an orange-ochre patch bordered with dark brown. Dull yellowish-orange shade surrounding a semitransparent large area on clavus (fig. 158).

Penis stem provided with short lateral appendages at apex (fig. 157, 163). Pygophore appendage broadened and recurvate subapically (fig. 159). Apical hook of paramere very thick (fig. 162), there are only a few setae on its outer margin.

Length ♂ 3.0 mm.

Holotype male, Madagascar, Tanandava, 1963—1964, coll. G. SCHMITZ.

(T).

The new species is named in honour of the collector Dr. G. SCHMITZ whom I am greatly appreciated for giving me invaluable materials of *Typhlocybinae* for study.

***Wiata (Czecza) gratiosa* sp. n.**

(fig. 135, 136, 165—175)

Ground of upper side of body light testaceous, suffused with white. Face of ground colour. At hind margin of pronotum two short brown transverse dashes. Two indistinct brownish marks just before tip of scutellum (fig. 172).

Fore wing semitransparent, apical veins whitish. The pattern consists of light brown patches in apical cells and light brown-rosy fasciae on corium and clavus (marked with oblique dashes in fig. 165, 170). The fasciae bordered with small brownish dots.

Penis stem very short, tubular (fig. 174, 175). Basal penis appendages shorter than the stem, divergent from each other apically. Pygophore appendage

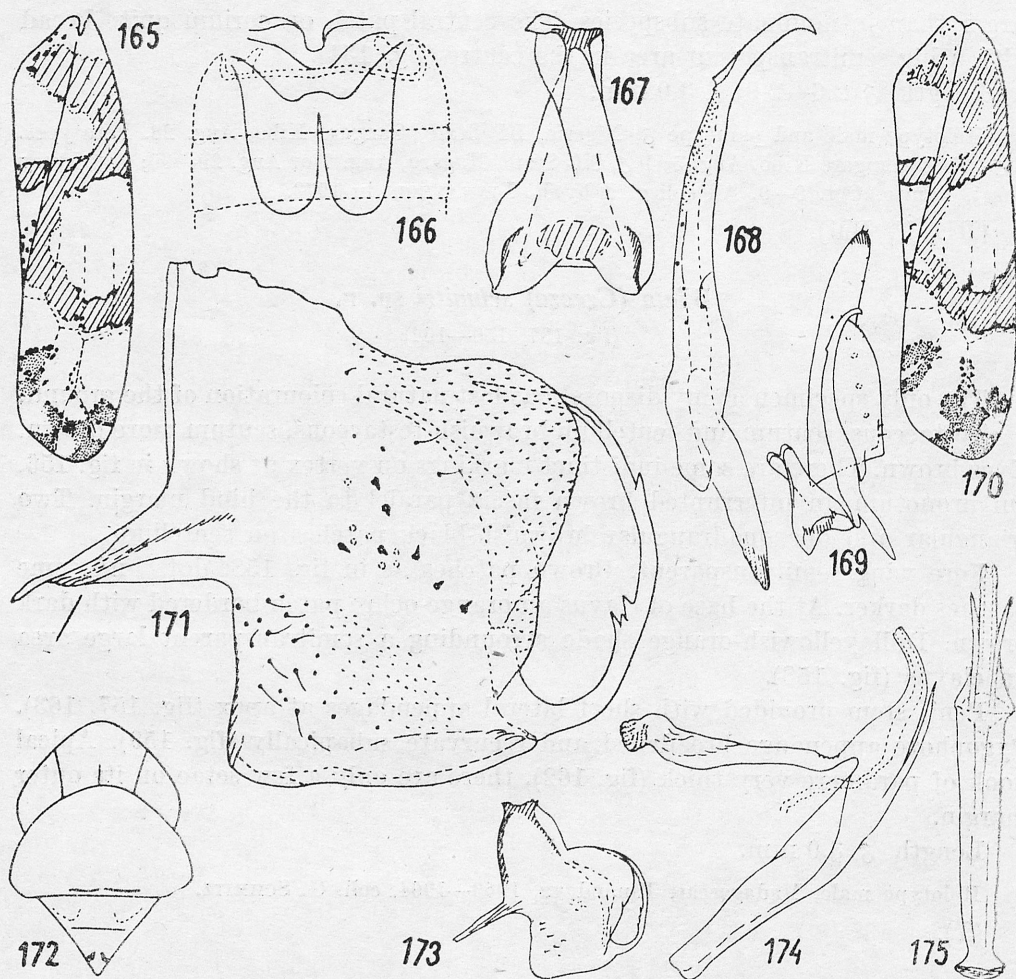


Fig. 165—175. *Wiata (Czeczka) gratiosa* sp. n.

(fig. 171, 173) long, thin, ornamented with big teeth. Paramere (fig. 168) similar to that of *W. (Cz.) schmitzi* sp. n.

Length ♂ 3.0—3.3 mm.

Holotype male, Zaire, Lubumbashi "Elisabethville", Feb. 1950. Paratypes. 1 ♂, Lubumbashi, March 5, 1949; 1 specimen with abdomen lost, Lubumbashi, March 20, 1949, at light. All collected by Ch. SEYDEL. 1 ♂, Lubumbashi, Feb. 1949, coll. H. J. BREDO; 1 ♂, Zaire, Katanga (Tera), 1947, coll. P. Cl. BERGMANS.

(T, BM).

Wiata (Czeczka) perforata sp. n.

(fig. 176—186)

Ground of vertex yellow-testaceous. Eyes testaceous. Apex and two patches near anterior margin of vertex (fig. 178) orangeous. Two ivory patches at base of vertex near eyes. Face ivory with testaceous striation on frontoclypeus and

blackish mark on gena below eye. A narrow orange transverse fascia on frons slightly testaceous in the midline. Pronotum ivory, its sides and hind part orange-red. Yellowish patches just at anterior margin of pronotum and brownish borderings of ivory patches situated on orange-red ground. Centre and sides of scutum as well as anterior half of scutellum, ivory. Basal triangles brown, bordered with red and with dark brown arcuate shades. Two dark brown dots at the centre of scutum. Tip of scutellum black.

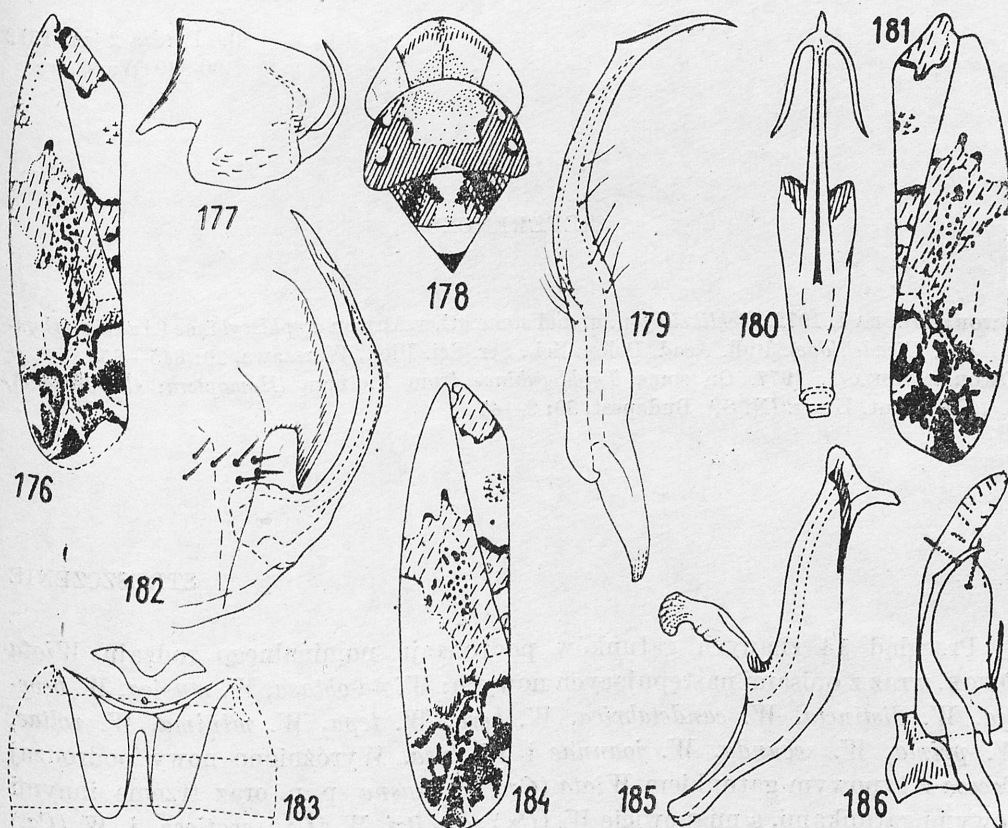


Fig. 176—186. *Wiata (Czecza) perforata* sp. n.

Fore wing dirty whitish, hardly semitransparent. Very often a yellowish patch at proximal end of wax-field (fig. 176) and the other one on the opposite side at hind margin of clavus (fig. 176, 181). An orange-red patch at inner margin of clavus and a large one in the centre of corium and near part of clavus, both patches partly bordered with dark brown. The big corial patch provided with semitransparent field in the centre. There are brown dots dispersed irregularly on this field and on orange-red ground of terminal part of the patch (fig. 176, 181). Apical veins and apical part of the wing margin orange-red. Brownish pattern of apex of wing suffused with orangeous cephalad.

Penis stem compressed laterally (fig. 180, 185) with one short apical and two long lateral appendages. Pygophore appendage recurvate, ornamented with big ledges (fig. 182). Apex paramere short, tapering (fig. 179). Quite numerous not very long setae in central part of paramere (fig. 179).

Length ♂ 2.4 mm.

Holotype male and paratypes 3 ♂♂, Nigeria, BP State, Gangare Kibo, Aug. 5—28; 1 ♂ paratype, NC State, Kagoro, Aug. 29—30, coll. R. LINNAVUORI in 1973.

(RL, ISEZ, BM).

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STRESZCZENIE

Przegląd 14 znanych gatunków podrodzaju nominalnego rodzaju *Wiata* DWOR. wraz z opisami następujących nowych: *Wiata obtusa*, *W. musica*, *W. bebedja*, *W. distincta*, *W. candelabrica*, *W. bera*, *W. tepa*, *W. minima*, *W. voltae*, *W. prima*, *W. secunda*, *W. joannae* i *W. lysa*. Wyróżniono nowy podrodzaj *Czecza* z typowym gatunkiem *Wiata (Czecza) krasna* sp. n. oraz trzema innymi nowymi gatunkami, a mianowicie *W. (Cz.) schmitzi*, *W. (Cz.) gratiosa* i *W. (Cz.) perforata*. *Wiata (Czecza) krasna* opisywany jest jako zróżnicowany na dwa podgatunki, podgatunek nominalny, występujący w tropikalnej Afryce centralnej i *W. (Cz.) krasna insulana*, wykazany z Afryki zachodniej.

Redaktor pracy: prof. dr Wacław Szymczakowski