

CESARE CONCI (*) & LIVIO TAMANINI (**)

TRIOZA (TRIOZA) RAPISARDAI N. SP., FROM PIEMONTE,
HOST PLANT *LASERPITIUM SILER*

(Homoptera Psylloidea)

Abstract. — The AA. describe, with 27 drawings of details, the adult and the V instar nymph of a new species collected in N. Italy, Piedmont, Susa Valley, near Cesana Torinese, about 1330-1550 m, 1.VII.83 and 20-21.IX.84, based upon 22 ♂♂, 33 ♀♀ and 17 nymphs. Host plant *Laserpitium siler* (Umbelliferae). *T. rapisardai* has an isolate position in the subgenus, above all owing to the unusual form of parameres with a distal part bent back. The species has probably only one generation per year and overwinters as adult.

Riassunto. — *Trioza (Trioza) rapisardai* n. sp., del Piemonte, da *Laserpitium siler* (Homoptera Psylloidea).

Gli AA. descrivono, con 27 figure di dettagli, adulto e ninfa al V stadio di una nuova specie raccolta in Piemonte, Prov. Torino, Val di Susa, a Cesana Torinese, a 1330-1550 m s.l.m., l'1.VII.83 e il 20-21.IX.84, in 22 ♂♂, 33 ♀♀ e 17 ninfe, su *Laserpitium siler* (Umbelliferae). *T. rapisardai* ha una posizione isolata nel sottogenere, soprattutto per la forma particolare dei parameri del ♂, con l'estremità distale rivolta all'indietro. La specie probabilmente ha una sola generazione all'anno e sverna da adulto.

***Trioza (Trioza) rapisardai* n. sp.**

1. DESCRIPTION OF THE ADULT.

Both sexes are similar for morphology and colouration.

1.1. *Morphology.* Head (fig. 1) with scarcely prominent eyes: width of the head almost 4,6 times the width of an eye. Genal cones separated from the vertex by a step. The anterior half of the vertical hollow that

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divides the vertex is wider than the posterior half; vertex hollows scarcely deep. Antennae (fig. 2) short: in the ♂ as long as the width of the head or a little longer; in the ♀ as long as the width of the head or a little shorter; article III very long and long as VIII, IX and X together; articles IV, VI, VIII and IX with a little rhinarium.

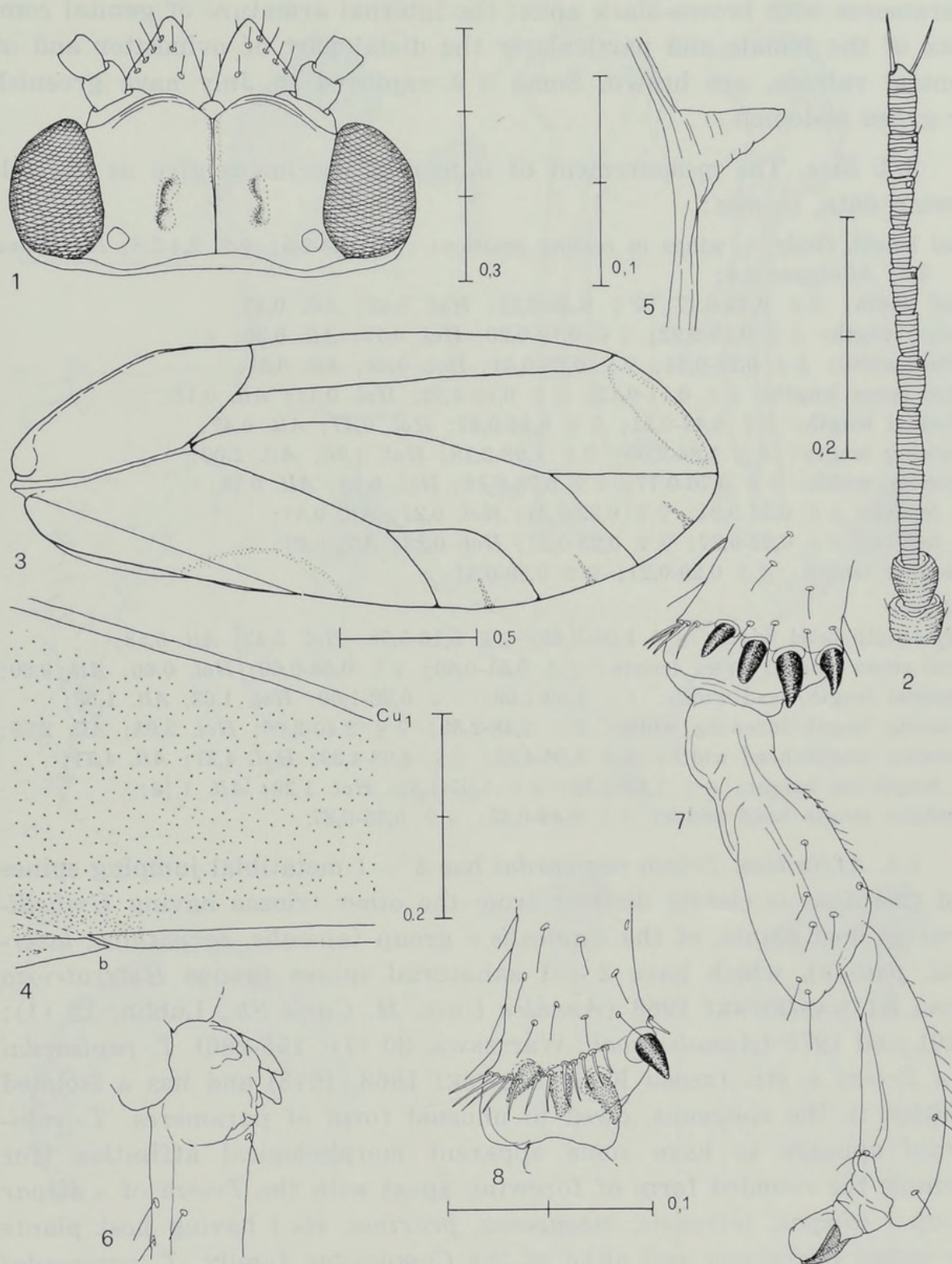
Thorax in lateral view superiorly slightly and uniformly convex; pronotum, from above, wider than the head. Mesonotum as wide as the head. Forewing (figs. 3-4) thin, with subparallel sides at its half, with rounded apex; maximum length at the apex of vein M_{1+2} . Microsculpture (fig. 4) in upper surface punctiform, colourless, uniformly diffused in all cells; it does not reach the veins; microsculpture in lower surface evident at the apex of r_2 cell and present also in the zone of anal break. Radular spinules hardly visible, not coloured. Anal break evident; R_s vein reaching the margin of the wing after the bifurcation of vein M. Hind wing with diaphanous membrane and very fine microsculpture, uniformly diffused on the whole surface. Meracanthus (fig. 5) short, conic, pointed. Base of metatibia as in fig. 6; distal part of metatibia (figs. 6-7) with $3 + 1$ thick, black jumping spines and 12-13 strong, yellow hairs; tarsi (fig. 7) with the two articles almost of the same length, strongly restricted in the proximal part. Legs, particularly the femura and the tibiae, covered by a microsculpture of very little, acute semicones.

Male genito-anal complex (figs. 9-10) with proctiger simple, oval, as long as the parameres. Parameres (figs. 11-14) with a distal part bent back and with different aspects according to the observation angle. Apex of penis as in figs. 15-16. The two discs of the spermal pump (fig. 9) almost alike.

Female genito-anal complex (figs. 17-18) long, conic; genital segment clearly shorter than the proctiger; ventral valvula (fig. 20) with notched apex; ovipositor as in fig. 19.

1.2. *Colouration*. The newly hatched specimens have the body with dominant colouration green; clypeus, eyes and distal parts of antennae, rostrum and ovipositor are pale brown, with various tonalities; ocelli pink; forewings hyaline, with veins pale yellow. The passage from green to straw yellow occurs some days after the hatching, beginning from head and thorax; the brown parts become darker.

The hibernating specimens have a dominant colouration between pale straw yellow and ochraceous (n. 241 and 246 of Universal Code of Colours of Seguy). Ocelli lucent pink. Antennae: I-VII article clear, VIII brown in distal part, IX and X brown-black. Wings transparent; veins with the colouration of the body. Anterior and middle tibiae with external and distal margins darker. Hairs have the colour of the body.



Trioza rapisardai. — Fig. 1: ♀ head. — Fig. 2: ♀ antenna. — Fig. 3: ♀ forewing; the oval and the semi-oval spaces surrounded with dots indicate the parts with microsculpture on the lower surface. — Fig. 4: part of the forewing, below Cu_1 , with microsculpture on upper surface; in the zone near the anal break, the small dots indicate microsculpture on the lower surface; b = anal break. — Fig. 5: ♀ meracanthus. — Fig. 6: ♀, base of metatibia. — Fig. 7: ♀, apex of metatibia, outer, and tarsus. — Fig. 8: apex of metatibia, inner.

Parameres with brown-black apex; the internal armature of genital complex of the female and particularly the distal part of ovipositor and of ventral valvula, are brown. Some ♀♀ captured in July have greenish or green abdomen.

1.3. *Size*. The measurement of numerous specimens give us the following data, in mm:

total length (body + wings in resting position): ♂♂ 2,3-2,5; ♀♀ 2,4-2,8; *Holotypus* 2,5; *Allotypus* 2,6;

head width: ♂♂ 0,43-0,47; ♀♀ 0,45-0,51; *Hol.* 0,45; *All.* 0,47;

vertex length: ♂♂ 0,19-0,22; ♀♀ 0,19-0,20; *Hol.* 0,19; *All.* 0,20;

vertex width: ♂♂ 0,27-0,31; ♀♀ 0,28-0,31; *Hol.* 0,30; *All.* 0,31;

genal cones length: ♂♂ 0,11-0,12; ♀♀ 0,10-0,12; *Hol.* 0,11; *All.* 0,12;

antennal length: ♂♂ 0,47-0,51; ♀♀ 0,44-0,47; *Hol.* 0,47; *All.* 0,47;

forewing length: ♂♂ 1,84-2,00; ♀♀ 1,92-2,18; *Hol.* 1,96; *All.* 2,00;

forewing width: ♂♂ 0,70-0,77; ♀♀ 0,78-0,86; *Hol.* 0,74; *All.* 0,78;

cu₁ length: ♂♂ 0,27-0,31; ♀♀ 0,29-0,31; *Hol.* 0,27; *All.* 0,31;

cu₁ height: ♂♂ 0,22-0,27; ♀♀ 0,23-0,27; *Hol.* 0,23; *All.* 0,27;

proctiger length: ♂♂ 0,20-0,21; ♀♀ 0,39-0,41.

Ratios:

body length/head width: ♂♂ 5,08-5,45; ♀♀ 5,16-5,58; *Hol.* 5,43; *All.* 5,58;

genal cones length/vertex length: ♂♂ 0,51-0,60; ♀♀ 0,58-0,60; *Hol.* 0,60; *All.* 0,60;

antennal length/head width: ♂♂ 1,00-1,09; ♀♀ 0,92-1,00; *Hol.* 1,03; *All.* 1,00;

forewing length/forewing width: ♂♂ 2,48-2,63; ♀♀ 2,40-2,66; *Hol.* 2,63; *All.* 2,59;

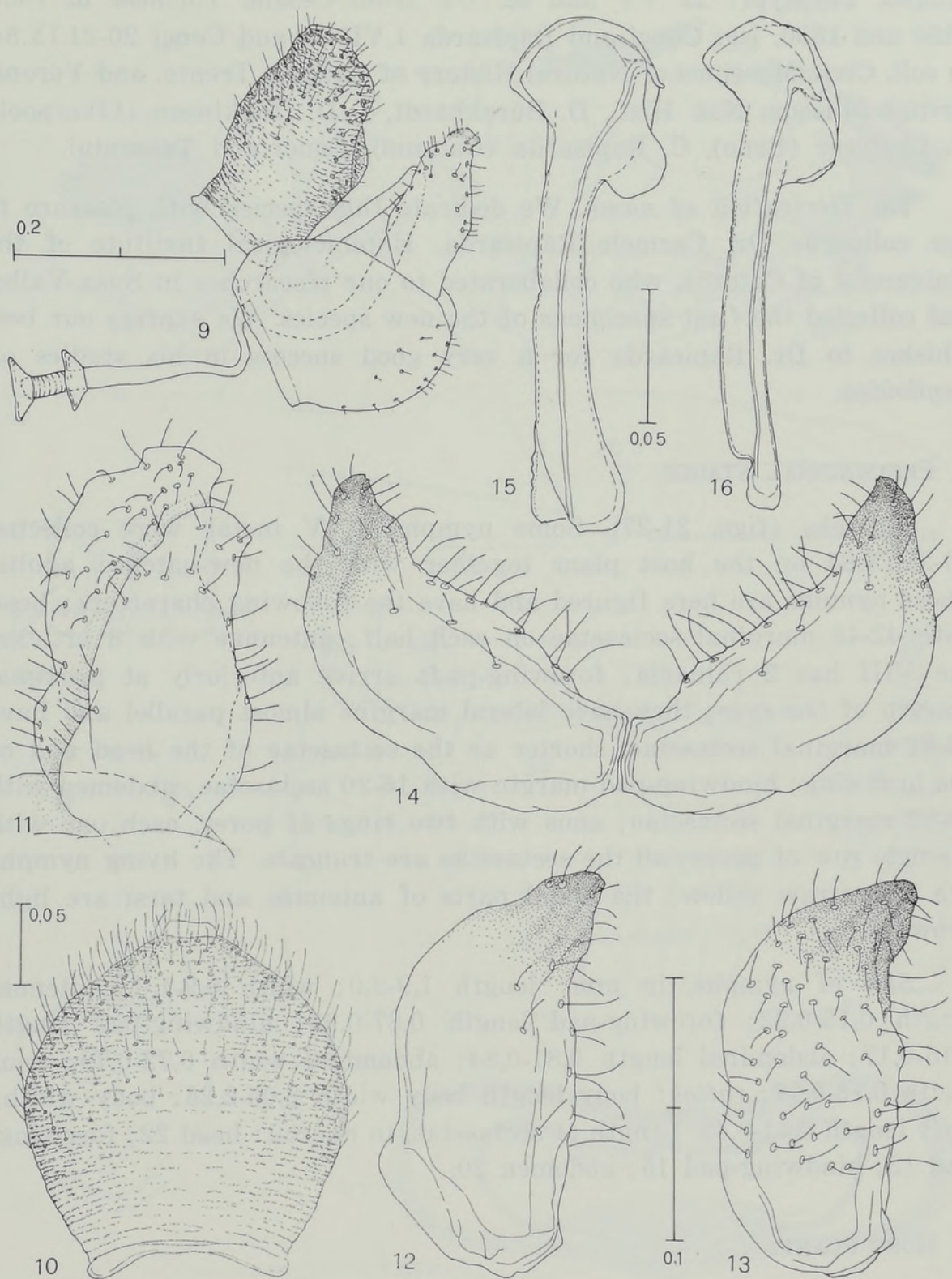
forewing length/head width: ♂♂ 4,06-4,33; ♀♀ 4,08-4,39; *Hol.* 4,31; *All.* 4,31;

cu₁ length/cu₁ height: ♂♂ 1,00-1,33; ♀♀ 1,07-1,33; *Hol.* 1,20; *All.* 1,14;

proctiger length/head width: ♂♂ 0,44-0,45; ♀♀ 0,85-0,87.

1.4. *Affinities*. *Trioza rapisardai* has 3 + 1 metatibial jumping spines and therefore is clearly distinct from the other triozae having *Umbelliferae* as host plants, of the « *apicalis* » group (*apicalis*, *carpathica*, *laserpitii*, *pallida*), which have 2 + 1 saltatorial spines (genus *Heterotrioza* sensu KLIMASZEWSKI 1968 (*Annales Univ. M. Curie Sk.*, Lublin, 12 (1): 1-20), and 1973 (*Annales zool.*, Warszawa, 30 (7): 155-286). *T. rapisardai* is a *Trioza* s. str. (sensu KLIMASZEWSKI 1968, 1973) and has a isolated position in the subgenus, owed to unusual form of parameres. *T. rapisardai* appears to have some apparent morphological affinities (for example the rounded form of forewing apex) with the *Trioza* of « *dispar* group » (*dispar*, *tatrensis*, *megacerca*, *proxima*, etc.) having host plants the genus *Hieracium* and alike of the *Compositae* family. *T. rapisardai* is very like for external characters to *T. rumicis*, which sometimes lives in the same habitat and mistakes are possible with dry specimens (however, *rumicis* has longer antennae and forewings).

1.5. *Type material*. *Holotypus* ♂ and *Allotypus* ♀ from the type locality, leg. C. Conci 1.VII.83, in coll. Museo Civico di Storia Naturale di



Trioza rapisardai. — Fig. 9: ♂ genito-anal complex, lateral. — Fig. 10: ♂ procotiger, anterior surface. — Fig. 11: parameres, outer (their apparently different shape is caused by the weakly inclined position in the preparation). — Fig. 12: left paramere, outer. — Fig. 13: right paramere, inner, — Fig. 14: parameres connected, posterior. — Figs. 15-16: penis of two different specimens.

Milano. Paratypes: 21 ♂♂ and 32 ♀♀ from Cesana Torinese m 1330, 1350 and 1550, leg. Conci and Rapisarda 1.VII.83 and Conci 20-21.IX.84, in coll. Civic Museums of Natural History of Genova, Trento, and Verona, British Museum Nat. Hist., D. Burckhardt, I. D. Hodgkinson (Liverpool), P. Lauterer (Brno), C. Rapisarda (Catania), Conci and Tamanini.

1.6. *Derivation of name.* We dedicate this species with pleasure to our colleague Dr. Carmelo Rapisarda, Entomological Institute of the University of Catania, who collaborated to our researches in Susa Valley and collected the first specimens of the new species. We express our best wishes to Dr. Rapisarda for a very good success in his studies on *Psylloidea*.

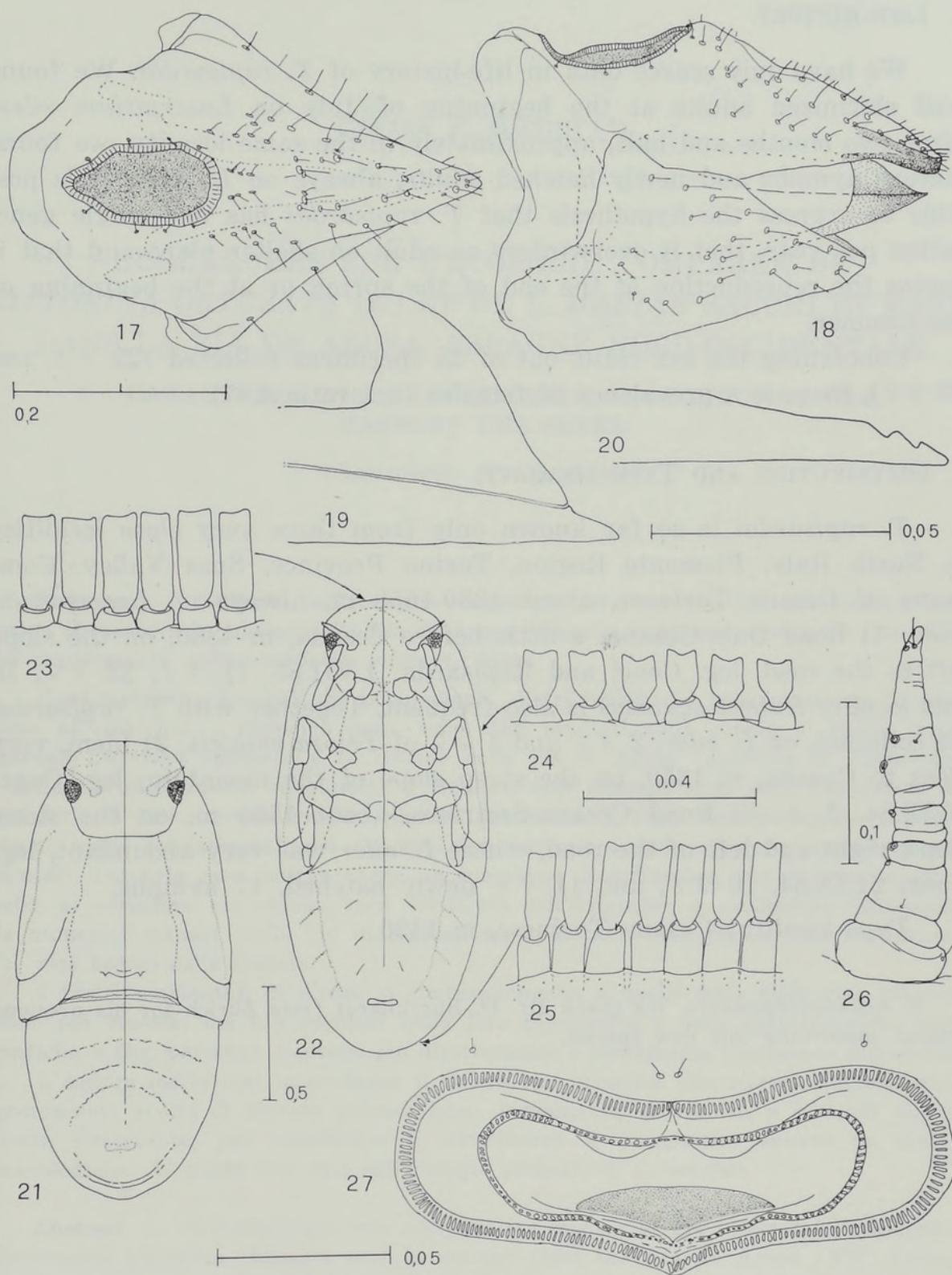
2. PREIMAGINAL STAGES.

Nymphs (figs. 21-27). Some nymphs at V instar were collected 20-21.IX.84 on the host plant together with the new-hatched adults. These nymphs are here figured and have the following characters: head with 42-46 marginal setasetae on each half; antennae with 8 articles, the VIII has 2 rhinaria; forewing-pads arrive anteriorly at proximal margin of the eyes; they have lateral margins almost parallel and have 86-92 marginal setasetae, shorter as the setasetae of the head and of the hindwing; hindwing-pad margin with 16-20 setasetae; abdomen with 90-92 marginal setasetae; anus with two rings of pores, each one with a single row of pores; all the setasetae are truncate. The living nymphs are pale straw yellow; the distal parts of antennae and tarsi are light brown.

Size of nymphs, in mm: length 1,9-2,0; width 0,9-1,0; antennal length 0,15-0,22; forewing-pad length 0,87-0,95; hindwing-pad length 0,15-0,17; abdominal length 0,81-0,84; abdominal width 0,72-0,79; anus width 0,16-0,17; *ratios*: body length/body width 2,05-2,25; body width/body length 0,44-0,49. Length of setasetae, in micron: head 22; forewing-pad 12; hindwing-pad 15; abdomen 20.

3. HOST PLANT.

All specimens were collected on *Laserpitium siler* L., a perennial herbaceous plant of the *Umbelliferae* family, diffused on the mountains of S. and S. Central Europe, fairly frequent in Italy on the Alps, Pre-Alps and part of the Apennines. *L. siler* grows preferably on stony slopes with good exposition to the sun.



Trioza rapisardai. — Fig. 17: ♀ genito-anal complex, dorsal. — Fig. 18: idem, lateral. — Fig. 19: ovipositor, lateral. — Fig. 20: ventral valvula, lateral. Figs. 21-27: nymph, V instar. — Fig. 21: dorsal. — Fig. 22: ventral. — Fig. 23: head margin sectasetae. — Fig. 24: forewing-pad margin sectasetae. — Fig. 25: abdomen margin sectasetae. — Fig. 26: antenna. — Fig. 27: anal complex.

4. LIFE-HISTORY.

We have only scarce data in life-history of *T. rapisardai*. We found well chitinized adults at the beginning of July on *Laserpitium siler*; after two months and half, approximately in the same locality, we found mature nymphs and newly hatched adults, always on *L. siler*. It is possible to express the hypothesis that *T. rapisardai* has one single generation per year, that it overwinters as adult on shelter plant and that it begins the reproduction at the end of the spring or at the beginning of the summer.

Concerning the sex ratio, out of 55 specimens collected (22 ♂♂ and 33 ♀♀), there is a prevalence of females (sex ratio 0,67).

5. DISTRIBUTION AND TYPE LOCALITY.

T. rapisardai is so far known only from three very close localities in North Italy, Piemonte Region, Torino Province, Susa Valley, Comune of Cesana Torinese, about 1330-1550 m, always on *Laserpitium siler*: 1) Road Oulx-Cesana, a little before Cesana, m 1330, on the slope left to the road, leg. Conci and Rapisarda, 1.VII.83, 11 ♂♂, 22 ♀♀. In this locality *Rumex scutatus* is also frequent. Together with *T. rapisardai* we collected, on *L. siler*, 2 ♂♂ and 3 ♀♀ of *Trioza rumicis*. 2) Idem, very close to Cesana, m 1350, on the steep slope of the mountain, leg. Conci 20.IX.84, 1 ♂. 3) Road Cesana-Sestriere, about 1550 m, on the stony slope, right and left of the road, where *L. siler* was very abundant, leg. Conci 21.IX.84, 10 ♂♂, and 11 ♀♀ newly hatched, 17 nymphs.

Type locality: Cesana Torinese, m 1330.

6. *Acknowledgements*. We thank Dr. D. Burckhardt from Zürich for his precious opinion concerning this new species.



Conci, C and Tamanini, L. 1984. "Trioza (Trioza) rapisardai n. sp., from Piemonte, host plant Laserpitium siler (Homoptera Psylloidea)." *Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale in Milano* 125(3-4), 201–208.

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