

38.

Dr. A. A. Oglobin:

NOVÁ STREPSIPTERA SBÍREK NÁRODNÍHO MUSEA V PRAZE.
THE NEW STREPSIPTERA OF THE COLLECTIONS OF NATIONAL
MUSEUM, PRAGUE.

(Part. III.)

(Plate VII. fgs. 1.—12.)

Tato práce jest dalším pokračováním ve studiích Strepsipter sbírek Národního musea. Popisují zde nový druh rodu *Sceliphronechthrus* Pierce a tři druhy, které prozatím přiřaduji k rodu *Elenchus* Curtis. Nový druh rodu *Sceliphronechthrus* pochází z Nové Guiney ze sběrů p. Erben a; jest to ♀ a triungulin, nalezené na vose *Sceliphron laetum*. Tři nové druhy rodu *Elenchus* jsou opět ♀ a sice byly nalezeny na různých družích křísků z rodu *Liburnia* sbírky Dudovy. Jsou dle všeho z Čech, ale dotyčné Dudovy exempláře bohužel nenesly bližších údajů o nalezišti. Nejdůležitější jest nález larev (triungulinů) rodu *Sceliphronechthrus*. Studium těchto larev umožnilo doplnění a opravu nedosti přesných popisů starších autorů, hlavně Perkinsa, jimž mnohé podrobnosti v morphologické stavbě larev těchto velmi vzácných hmyzů ušly úplně. Po této stránce mohl jsem zde přinést více docela nových pozorování, jež doplňuji poznámkami o některých formách podobných. Strepsiptera jsou vesměs hmyzy velmi vzácnými a tak nálezy jich vždy téměř ojedinělé. Těmito formami opět podstatně se rozmnoží sbírky této skupiny v Nár. museu.

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The following contribution contains descriptions of one new species of genus *Sceliphronechthrus* Pierce and of three new species preliminary referred to the genus *Elenchus* Curtis. The author wishes to express his acknowledgments to Dr. F. Maidl, custos of Wiener Hofmuseum and to Mr. H. Haupt of Halle a. S., Germany for their most valuable aid in determination of host-specimens of those new Strepsiptera (the wasp and leaf-hoppers).

The family *Xenidae* A. P. Semenov, *Tian-Šanskij*, 1902.

I. *Sceliphronechthrus* W. D. Pierce 1909, p. 141, gen. n. near to *Xenos* R. C. L. Perkins 1905.

Only one species *S. fasciatum* Pierce was described from this genus, although species of *Sceliphron* were recorded as being parasitized. Dr. R. C. L. Perkins described and pictured (1905) male, female and triungulinid larva of a new species and genus (not named), which no doubt must belong to *Sceliphronechthrus*. Mr. W. Dwight Pierce 1911, p. 507, mentioned the stylopization of *Sceliphron laetum* F. Smith without describing of the parasite. One male specimen of *Sceliphron laetum* F. Smith collected at New Guinea by Mr. Erben, contained three vast puparia and one adult female with a few triungulinid larvae. The following descriptions are made from this material.

1. *Sceliphronechthrus laetum* n. sp.

Female. Larval cephalothorax of general color brownish yellow, head, except of mandibles, small tubercles beyond the mandibles, the space between

tubercles and the orifice of the mouth, and very narrow brownish strip along the posterior border, — of bright lemon yellow. Fig. 1.

The anterior margin nearly semicircular. Mandibles close to the anterior border with a sharp tooth on the inner side directed parallel with the longest axe of the body. A few minute pori pierce the chitinous wall of the mandible at the antero-external angle. The inner wall of the mandible is thicker than the outer one. A small subconical cavity immediately under the tooth indicates the pulp part of the tooth. Fig. 2.

The anterior margin of labial part i. e. the posterior margin of the mouth orifice is considerably thickened, broadly and slightly carved.

Two tubercles placed immediately below the mandibles presented, probably the rudiments of maxillae I, a weak apodeme is situated externo anteriorly from this tubercle supporting the inner articulation of the mandible. This apodeme send an elongate branch postero-externally uniting with the π -shaped thickened part of the posterior border of the head.

Prosternum with a well defined pattern of different hues of light yellow and brownish, posteriorly at the middle with two light round dots united by a colorless transverse line. This line indicates the posterior border of prosternum similar to a second transverse line at the border between meso- and metasternum.

Metasternum with the spiracles situated laterodorsally only slightly narrowed behind, posteriorly with a few weak longitudinal folds on both sides.

The pori of Nassonov's glands are distinct only on the mesosternal part; small round pori ($2,5 \mu$ in the diameter), nearly 130 in number form a field of characteristic outline shown on the fig. 1.

Measurements of the larval cephalothorax:

The length of the cephalothorax	1,36 mm.
The maximum breadth of the cephalothorax	1,45 mm.
Distance between the spiracles	1,29 mm.
The breadth of the head	1,07 mm.
Maximum length of the head	0,42 mm.
The head's length at the middle	0,23 mm.
The breadth of transversal slit in front	0,45 mm.
» » » » behind	0,68 mm.
The length of prosternum	0,34 mm.
The length of mesosternum	0,40 mm.
The length of metasternum	0,51 mm.
The longest diameter of the spiracle	0,12 mm.
The short diameter of the spiracle	0,1 mm.
Distance between the mandibles	0,2 mm.
The length of the mandible	0,15 mm.
The breadth of the mandible	0,1—0,09 mm.
The space between the posterior border of the mouth orifice and the tip of the cephalothorax	0,09 mm.
The breadth of the mouth orifice	0,13 mm.

The triungulinid larva.

General colour of dark yellow, the mouth parts, pigmented parts of the head around ocelli, posterior margins of the thoracic tergites and the tenth segment of dark brown.

The length of the body 0,275 mm; the maximum breadth (at the metathorax) 0,12 mm.

The head transverse, length 0,05 mm, br. 0,085 mm with ten unequal ocelli; four pairs on the dorsal side and one pair ventro-lateral. The anterior ocellum, of the five on each side of the head, is the largest one, nearly $12\ \mu$ in the diameter, two following about $10\ \mu$ and the posterior dorsal like ventrolateral ocellum of nearly $7\ \mu$. Minute short bristles situated on the dorsal surface of the head are shown on the fig. 3.

I am inclined to regard the two elliptical small fields of very small round sensoria placed immediately before the anterior ocelli as antennae. Mr. W. Dwight Pierce 1918 described three-jointed antennae in *Stichotrema dalla Torreanum* Hofeneder p. p. 405. and 430. and two-jointed antennae by triungulinid larva of *Calliphorixenos Muiri* Pierce.

It is thought more correct to regard these organs rather as Maxillae I in accordance with embryological observations of Dr. R. Hoffmann (1914a) [c. f. Dr. W. Ulrich 1927]. On the contrary, I suppose, that the two round sensorial organs pictured by D. Pierce 1918 pl. 67. fig. 1. just internally from the fore ocelli, are antennae.

The further investigations, especially on the end of the antennal nerv are necessary for dissolving this probleme. The diameter of the antenna is nearly $5\ \mu$. A very similar structure is found also by triungulinid larva of *Eupathocera sphecedarum* Duf.; the antenna of the latter differs slightly in the number of the round sensoriae. The Mandible is 0,042 mm long, similar in shape to the mandibles of other *Xenidae*, its peculiarity can be learned from fig. s. 2. and 3. and together with its relations to the inner skeleton of the head.

As it was already mentioned above, it is the author's opinion that the *Mx. I.* are present in shape of two tubercles placed on the ventral head's surface, internally from the *Md. I* think that N. V. Nasonov described those tubercles for the first time without designating them as maxillae I. The maxilla I. consists of the basal part, bearing distally club-like swollen hair, and distal part with a strong stout bristle. (Fig. 6.). Both hairs one directed caudally. Two round pustulae are present between the basal rings of those hairs. The club-like hair reminds very much to the stick-shaped organ described by Dr. K. Hofeneder (1910) 1919, Taf. 32, fig. 6. for *Stichotrema Dalla-Torreanum* Hof., but interpreted as the mandible (p. 443 l. c.).

The maxilla I. of *Eupathocera sphecedarum* Duf. *LI.*, is very similar to this of *LI.* of *Sceliphronechthrus laetum* n. sp. (both are pictured on the fig. 6. and 7.).

Between maxillae I. lies an weakly defined area with the two small round sensorial pustulae. The whole area is not unlike to the reduced maxillae II. Many larvae of parasitic *Hymenoptera* have reduced maxillae II. with their palpi present in the shape of two small round pustulae, similar to the above described. (Fig. 3.)

The medial and posterior parts of the ventral surface of the head are densely covered with very thin, long pili somewhat covering the labial sensorial.

Those pili like many other, described below, are so-called *false-hairs* (*unechte Haarbildung* Dr. W. Ulrich 1925) in distinction from the *true hairs* or *jointed hairs*.

Two small short bristles on the ventral surface of the head are placed in front of external angles of the mandibles.

The dorsal surface of the thorax as well as of the abdominal tergites 1—8 is covered with a characteristic reticulate structure usually not mentioned in the descriptions of the free larvae of *Xenidae*. Only N. V. Nasonov (1892. b. p. 4. Pl. I. fig. 2. and 3.) described and pictured this reticulate structure for the larva of *Xenos vesparum* Rossi.

Possibly only the usual method of study free larvae of *Strepsiptera*, when mounted in the canada-balsam, is responsible for this reticulate structure, while it was not mentioned in the description after N. V. Nasonov, as being practically invisible in *balsam, glycerin-gelatine, liquide de Faure* and so on, *Pure glycerin* proves to be a little better but the best way to see the reticulum mentioned above, is to observe it *in the water, or to dry the larvae*.

Four rows of penta- and hexagonal cells on the pronotum; meso- and metanotum each with three rows. Eight small short spines on the pronotum; four and four on the meso- and metanotum respectively.

Thorax ventrally with distinct medial sternal plates. If I not mistake, only prof. P. de Peyerimoff 1919, p. 165 Tab. 1. fig. A. and D. and A. Ogloblin 1925 mentioned the presence of the sternal sclerites. Mr. W. D. Pierce pictured them for *Stylops Swenki* 1918, p. 405. fig. 1. and for mesothorax of *Stylops californica* ibid. Pl. 71. fig. 7., but described nothing of them. Dr. R. W. Hoffmann (1914 a. and b.) incorrectly pictured by triungulinids of *Eupathocera* and *Xenos* an *elongate single sclerite divided longitudinally*.

The pro, meso and metasternum of *Eupathocera spheccidarum* Duf. are shown on the fig. s. 8. D. F. and E.

I am convinced, that the shape of sternal sclerites, may be used as a good systematical characteristic. The prosternum is 24 μ long; the mesosternum 29 μ ; the metasternum 27 μ ; the latter on the posterior end with two short spines («unechte Haarbildungen»).

As my interpretation of joints of the triungulinid's legs is a little different from usually adopted by other authors, it seems not unnecessary to give here the following review.

Dr. Carl Börner (1927) make an good attempt to show the unic plan of the leg parts of all *Arthropoda*. His main idea was to show that *three articulations* — «primary articulations», permit to homologize the main joints of the legs of *Arthropoda* merely by counting the joints proximal and distal from those articulations. Although C. Börner did not consider this method as unique and pointed out, that muscles and innervations play an important part in the joints identification, however practically, in his diagrams he advanced only above mentioned princip.

Prof. E. Racovitza (1923 *) criticized the method of Dr. C. Börner finding, that the articulations including the «primary» ones «se montrent soumises sans résistance aux vicissitudes des adaptations variées et peuvent disparaître souvent sans laisser de traces» (p. 95.). But it is not the case with the joints themselves, because very often it is easy to find proximal or distal borders of disappearing joints. E. Racovitza stated more precisely the morphological significance of the joints in the legs of *Isopoda*. In an interesting paper Dr. R. Jeannel recently claimed that princip of E. Racovitza may be successfully applied also in the comparative morphology of the insect's leg.

Like C. Börner, R. Jeannel introduced a new rational nomenclature for the leg's joints, based on his comparative investigations on the structure of the legs of larvae and of adult *Coleoptera*. The nomenclature of both authors

differs a little from commonly used in descriptive entomology. I shall not adopt here a new nomenclature as the whole question seems to be far from being definitively decided. One of the most serious objections can be advanced against the Dr. R. Jeannel's point of view. It is *hardly possible to homologise* such organs of *different origin*, as the legs of *larvae* of beetles with those of *adults*. Likewise it is unreasonable to homologise the *malpighian vessels*, or *muscles* of larvae with the same organs of *adult holometabolic insects*. Nobody would homologise the *pronephros* of the *Vertebrata* with *meso-*, or *metanephros* notwithstanding of their similar structure and functions.

We could choose a great number of examples of misusing the homologization's princip in the comparative anatomy of insectes. It is true, that *comparative morphology based exclusively on the homologisation* permit to bring about the conclusions mainly of historic (*phylogenetic*) value. Recently Prof. M. M. Novikov (1927) pointed out that the comparative anatomy, which had based G. Cuvier (1805) and E. Geoffroy St. Hilaire (1828) on the *princip of analogy*, early *abandoned* this princip under influence of Darwinistic ideas, and all comparative morphologists used only method of *homologisation*, what made the modern comparative anatomy onesided. M. M. Novikov revives the comparative anatomy, based on the old princip of G. Cuvier.

In this paper I prefer to use only termina adopted in the descriptive entomology having as yet *no solid basis* for the comparatively morphological conclusions.

The basal ring of the leg of triungulinid is very short and wide and occupies nearly whole space between pleurum and sternal plate. When observed from the ventral side this ring is usually visible only in his oral part. But the careful examination from the lateral side shows, that it is a complete ring. It is only externo-anterior part of this ring that W. D. Pierce (1918. p. 405.) called »*episternal sclerite*« by the triungulinid of *Stichotrema*. (Pl. 67. fig. 3.) and the author had made the same mistake in the description of triungulinid of *Halictoxenos nitidiusculus* A. Ogloblin (1925 p. 4. Tabl. II. fig. 3.).

I regard this basal ring as *the coxa* and following ring as *the trochanter* (= *coxa* authors fig. 5.), not because considering it as morphologically homologous to the coxa of the other *arthropoda*, but simply by the reason, that coxa is defined in the descriptive entomology as »*the basal segment of the leg*. (R. E. Snodgrass 1909, p. 572.). *Coxa I.* with the anterior wall much higher, than posterior one, length (high) 19μ ; br. 34μ to measure from the side; the antero-distal margin is covered with dense, long and thin »*false*« hairs. (»*Unechte Haarbildung*«). *Trochanter I.* (*coxa I.* of some authors) internally with a long bristle, followed by three short stout spines, the anterior margin with short, comparatively sparse »*false*« hairs. One spine on the externo-lateral side. *Trochanter I.* 27μ high; 22μ long and 36μ wide. The trochantero-femoral membrane externally with one and two short spines (»*false*« hairs).

Femur I. 43μ long; with the maximum breadth 11μ ; basally narrowed and merged into the cavity of the trochanter. The ventral surface of the femur with 1 and 2 or 3 and $1+1$ teeth. Apical end internally with a stout spine.

Tibia I. 36μ long; with maximum breadth 5μ , with two spines on the basal third and one in the apical one. The *tarsus* or *tarsal pad* forms an approximately lense-shaped transparent body, with following details. On the dorsal surface of thin chitinous wall, near to the internal side, there is a strongly

chitinized plate, ending with three spines. The spines directed distal are nearly as long, as the plate. To see from in front it can be noted that the plate and spines slightly raised over the level of remaining surface of the pad, being, however, fastened to the integuments. An ideal optical section is shown on the fig. 9. b.

The plate forms a skeleton on the superior surface of the pad and probably plays a part in the fastening the tarsus on the plain surface (fig. 9. a.). A few shallow furrows complicate the structure of dorsal pad's surface. The pad ventrally is slightly and evenly convexe, a little swollen in the basal part, opposite to the tibio-tarsal articulation. (Fig. 9. a.) The *tarsus I.* is $22\ 22\ \mu$ long; maximum breadth $14\ \mu$; the basal trispinose plate $10\ \mu$.

The four anterior tarsi of *Eupathocera sphecidarum* Duf. have a similar structure, as well as free larvae of *Pseudoxenos* and *Xenos*. I could not study with more details at that time (A. Ogloblin 1925) the pad of free larvae on the single damaged larvae skin and that is the reason of my mistake in describing the three spinose plate, as an internal one.

W. D. Pierce described three claws by interesting *Calliphorixenos Muiri* Pierce (1918, P. Z. 68. fig. 4.) and V. N. Nassonov (1892 b., p. 5.) described by *Xenos vesparum* Rossi three parallel thickenings on the dorsal surface of fore tarsus.

Although Dr. W. Ulrich 1927, mentioning of those structures, said that they hardly could to do anything with the triple claws of triungulinids of *Meloidae*, it seems that more detailed investigation of tarsi of free larvae of *Meloidae*, *Rhipiphoridae* and *Strepsiptera* can be of interest. It deserves to be mentioned, with the problem of the origin of triple claws of *Meloidae*, that R. Jeannel (1925) found a good developed unpaired chitinous piece between the bases of the two claws. He called it »lenodule unguéale» however the name of »thenar» (N. Kuzněcov 1915), partly equal to »Streckplatte» (J. C. H. De Meijere 1901), should be preferred. Theoretically it can be imagine that a extremely developed claw like thenar will make an appearance of triple claws; on the contrary the reduction of the claws and its basal confluence with thenar will give a plate.

Coxa II. with 11—12 short, »false» hairs on the anterior border; a second shorter row of 7 similar hairs is on the base of coxa. *Trochanter II.* with large internal lobe on the anterior margin, bearing a long bristle, on the base of this lobe with three stout, short spines in a single row. The anterior border of the trochanter with dense, long, unequal »false» hairs, a small short spine on the external side of the trochanter.

Femur II. (l. $46\ \mu$ maximum br. $12\ \mu$) with one or two small basal teeth followed by two large ones, apically with a single, stout spine.

Tibia II. (l. $34\ \mu$, br. $5\ \mu$) with two spines. The *tarsus II.* similar to *tarsus I.*

Coxa III. with two rows of »false» hairs longer than those of *Coxa II.*

Trochanter III. with a long bristle on the apical lobus reaching the middle of third abdominal sternite. Besides of apical fringe of »false» hairs there is a single »false» hair on the internal margin of the lobus.

Femur III. (l. $46\ \mu$, br. $5\ \mu$); with four to five large sharp teeth on the ventral surface and single apical spine.

Tibia III. (l. $40\ \mu$); with tree spines.

Tarsus III. (l. $27\ \mu$); apically with characteristical elliptical appendage of transparent chitin, shown in figs. 2, 3.

The abdominal tergites 1—8 apically with a single row of transverse cells. The ninth tergite with a row of longitudinae cells, the transversal margins of those cells are a little more accentuated than the longitudinal ones. I think that this pattern served the cause for the description of a singular structure, which Dr. A. Hoffmann called »vellum« and described it as an hyaline membrane precisely on the same place where the transversal line of cell pattern is situated (1914, b. p. 102). When the triungulinid larvae are mounted in the liquids with strong light breaking coefficient, some times only transversal line is visible on the ninth tergite. I pictured it for the ninth segment of *Pseudoxenos* A. Oglobin, 1924.

Pleural parts of the abd. tergites 1—8 with 3—4 short »false« hairs on the margin and with one external long spine. Fig. 8c. shows the pleurite of *Eupathocera sphecidarum*. Ninth tergite with two bristles, its pleurae with two long bristles.

Tenth tergite with straight apical border; two long, stout bristles (l. 68 μ).

11. segment or a mobile plate bearing two apical stylets, usually counted as part of segment 10. First a. sternite basally rounded and produced between the ends of *Tr. III.*, caudal border with several false hairs laterally. The a. sternites 2—8 with 8—10 false hairs on the apical margin. The sternite 8 besides with two subapical, short thin bristles. The ninth sternite broadly carved on the caudal margin, flat, like remaining sternites, on each side with two bristles, the internal one very short, the external long, reaching beyond the caudal margin of the tenth sternite. The lateral parts of ninth sternite can be hardly designated as = tubercles = (Hoffmann, 1914) being entirely flat.

Tenth sternite with broadly rounded caudal margin.

The stylets 0,12 mm long.

The family **Elenchidae** Pierce, 1909.

In the collection of *Homoptera* preserved in the Entomological Departement of National Museum of Prague the author found three specimens of *Delphacidae*, each bearing a single female of *Strepsiptera*.

I describe those females as three different species of the genus *Elenchus* Curtis, but think that those descriptions are of less value. Firstly it is difficult to expect that such reduced chitinous organs as cephalic caps of adult larvae of the female of *Elenchus*, will always bear the characters sufficient for the separating species.

Secondly the study of greater material of females of *Pseudelenchus carpathicus* A. Ogl. 1925 convicend me that all part of cephalic cap and the rudiments of thoracal sternits are subjected in a great degree to variations.

Notwithstanding I describe three species regarding those descriptions as preliminary.

II. Genus **Elenchus**, Curtis.

2. **Elenchus dubius** n. sp. Fig. 12.

Described from one specimen taken by prof. L. Duda, Bohemia, parasite of undetermined leaf-hopper from the genus *Liburnia* (*Delphax* Osh.).

Female. The cephalic cap dark brown with two light brownish spots on the place of the Nasonov's glands pori and with a broad, light, yellow

transversal strip. The superior margin of this light strip is straight at the middle opposite to the mandibles, twice angularly excised on the sides. The inferior border of the strip nearly straight. Mandibles, inner margin of the spiracular rings pro- and mesosternum of different hues of brown. Antennae not conspicuous. Cephalic cap broadly rounded in front with nearly straight lateral margins; the posterior margin slightly carved on both sides of the mouth orifice.

The ventral surface of the cephalic cap convexe, latero-dorsal margin not very narrow. Length of the cap $177\ \mu$ breadth. $238\ \mu$. The pori of Nassonov's glands in two close groups, each with nearly 15 pori. Diameter of the porus nearly $2\ \mu$. The medial surface of cephalic cap between the groups of pori of Nassonov's glands and mandibles pierced with dense, minute pori more distincte on the light (clypeal) part immediately before the mandibles.

Mandibles transversal, length $24\ \mu$: breadth $31\ \mu$, horse-shoe shaped with longer superior branch. Space between the mandibles $10\ \mu$. Labrum excised at the middle; breadth $54\ \mu$. Spiracles tightly joined with prosternal margin with external border slightly dilated and very thin. Length $27\ \mu$ to $31\ \mu$; breadth $23\ \mu$ to $27\ \mu$. The distance between them $129\ \mu$. The spiracular field is closed by the encroachment of mesosternum and by chitinous fields running from postero-lateral angles of cephalic cap. Prosternum not separated from mesosternum; the orifice of the broad-chamber sub-trapeziform, with rounded posterior angle, and carved lateral sides.

The length from the tip of the cephalic cap to the end of the mesosternum, $279\ \mu$.

3. *Elenchus forcipatus* n. sp.

Described from only specimen found on *Liburnia (Delphax) forcipata* Boh. taken by prof. Duda at Bohemia, and preserved in his collection, in the Entomological Departement of the National Museum of Prague. Fig. 11.

Female. The cephalic cap dark brown with two light brownish spots on the places, where the pori of Nassonov's gland are situated and with a broad, yellow, transverse strip before the posterior margin. The superior margin of this strip at the middle part opposite to the mandibles is rounded on the sides, twice angularly excised. The posterior border of the light strip nearly straight.

Mandibles, labrum spiracles and mesosternum brownish. Prosternum dark brown-blackish. Antennae wanting. Cephalic cap broadly rounded in front, with rounded lateral margins, posteriorly nearly straight, cap convexe the latero-dorsal margin not especially narrow. Length of the cap $163\ \mu$, maximum breadth $248\ \mu$. The pori of Nassonov's glands in two close groups, each contains nearly 15 round pori. Diameter of the porus ca. $2\ \mu$.

The medial surface of the cephalic cap between the pori of Nassonov's glands and mandibles covered with minute less conspicuous pori. Mandibles l. $27\ \mu$; br. 34 to $37\ \mu$; the space between them $7\ \mu$. Labrum straight at the middle, breadth $67\ \mu$. Spiracles free with the opened spiracular field.

External margin of the spiracular ring dilated, rounded, length of spiracle $25\ \mu$; br. $27\ \mu$. Distance between the spiracles $146\ \mu$. Prosternum fused with the mesosternum, narrow; the orifice of the broad-chamber nearly semicircular.

The length from the tip of the cephalic cap to the end of mesosternum $268\ \mu$.

4. *Elenchus lugubrinus* n. sp.

Described from one specimen parasited on *Liburnia lugubrina*, taken by Prof. Duda and preserved in his collection in the National Museum in Prague.

Female. Larval cephalothorax with cephalic cap of light yellow colour, with pale spot near the mandibles and groups of pori of Nasonov's glands. Mandibles light brownish like mesosternum. Prosternum and stigmal rings dark brown.

Antennae not conspicuous. Cephalic cap broadly rounded in front, with nearly straight posterior border. Length $143\ \mu$. Maximum breadth $245\ \mu$. Cephalic cap low, its superodorsal margin very narrow. The groups of pori of Nasonov's glands dispersed, each consisting of twenty to twenty-four round pori nearly $1,5\ \mu$ in diameter. (Fig. 10.)

Mandibles transverse, irregularly horse-shoe shaped close one to another; length $31\ \mu$; breadth $48\ \mu$. Spiracles free, subtriangular in shape, with expanded external margin, elongate; length $27-31\ \mu$, breadth $24-27\ \mu$. The distance between the spiracles $170\ \mu$. Prosternum narrow slightly carved opposite the spiracles, hardly separated from the mesosternum. The length from the tip of cephalic cap to the end of the mesosternum $248\ \mu$.

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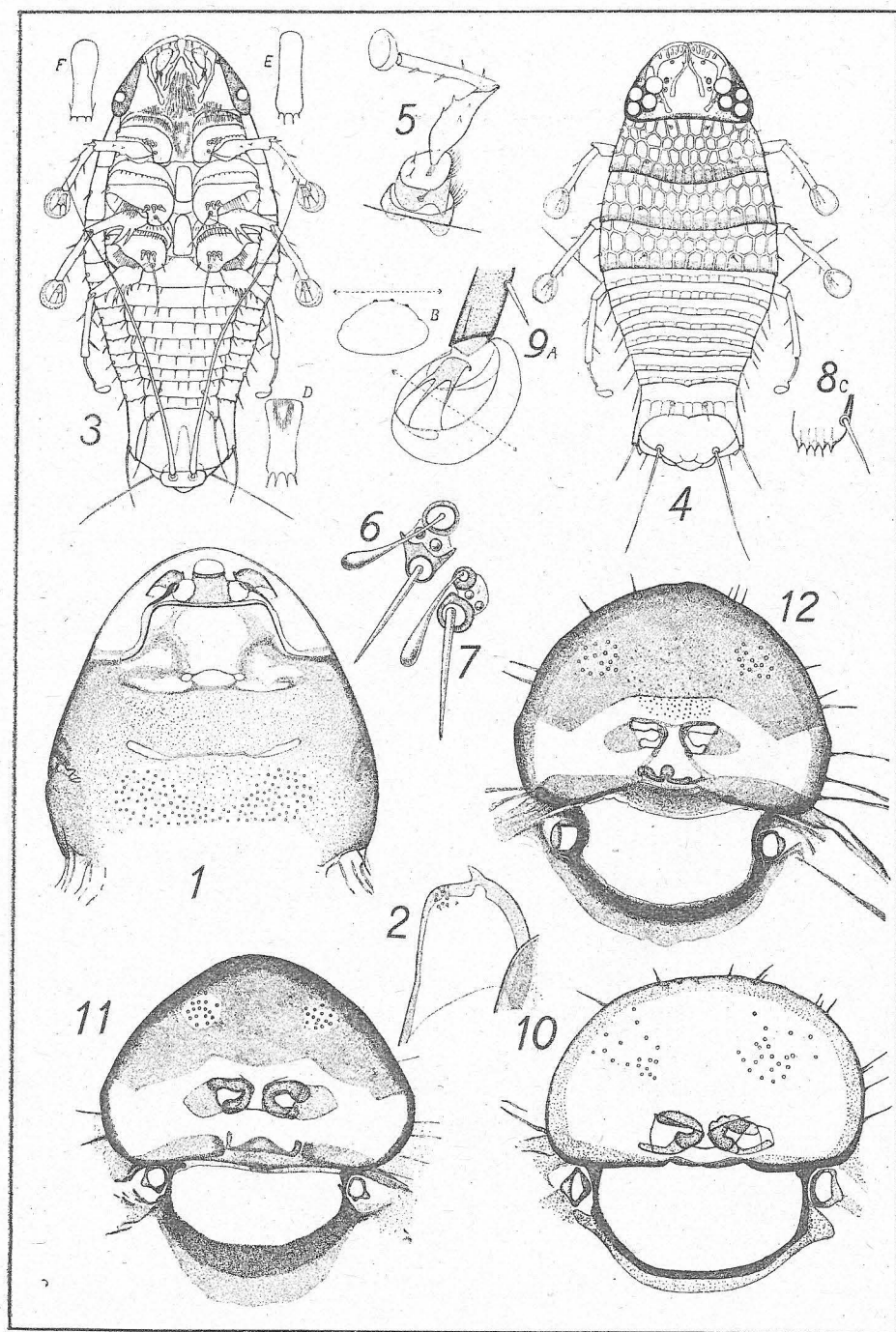
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Explanation of illustrations.

Fig. 1. *Sceliphronechthrus laetum*, ♀ larval cephalothorax ventral view. *Fig. 2.* *S. laetum*; ♀ right mandible ventrally. *Fig. 3.* *S. laetum*; free larva ventral view. *Fig. 4.* The same dorsal view. *Fig. 5.* *S. laetum*; free larva, anterior left leg, lateral view. *Fig. 6.* *Eupathocera sphecidarum* Duf.; free larva, maxilla. *Fig. 7.* *Sceliphronechthrus laetum* n. sp.; free larva, maxilla. *Fig. 8.* c. *Eupathocera sphecidarum* Duf.; the pleural part of fourth tergite; d. prosternal, e. mesosternal, f. metasternal plates. *Fig. 9.* a. *Sceliphronechthrus laetum* n. sp.; tarsus, b. ideal cross-section through the tarsal pad in the direction shown by the arrow in a. *Fig. 10.* *Elenchus lugubrinus* n. sp., ♀; ventral view of cephalic cap. *Fig. 11.* *Elenchus forcipatus* n. sp., ♀; ventral view of cephalic cap. *Fig. 12.* *Elenchus dubius* n. sp., ♀; ventral view of cephalic cap.

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Tab. VII.