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**Studies on the morphology of larval stages of water mites (*Hydracarina*)  
2. Some species of the superfamily *Hydryphantoidea***

[With 1 table and 131 text-figures]

**Abstract.** The paper contains descriptions of larvae of 19 species of water mites of the superfamily *Hydryphantoidea*. Larvae of 11 species are described for the first time. General morphological characters and morphometric characteristics of larvae of this group are presented.

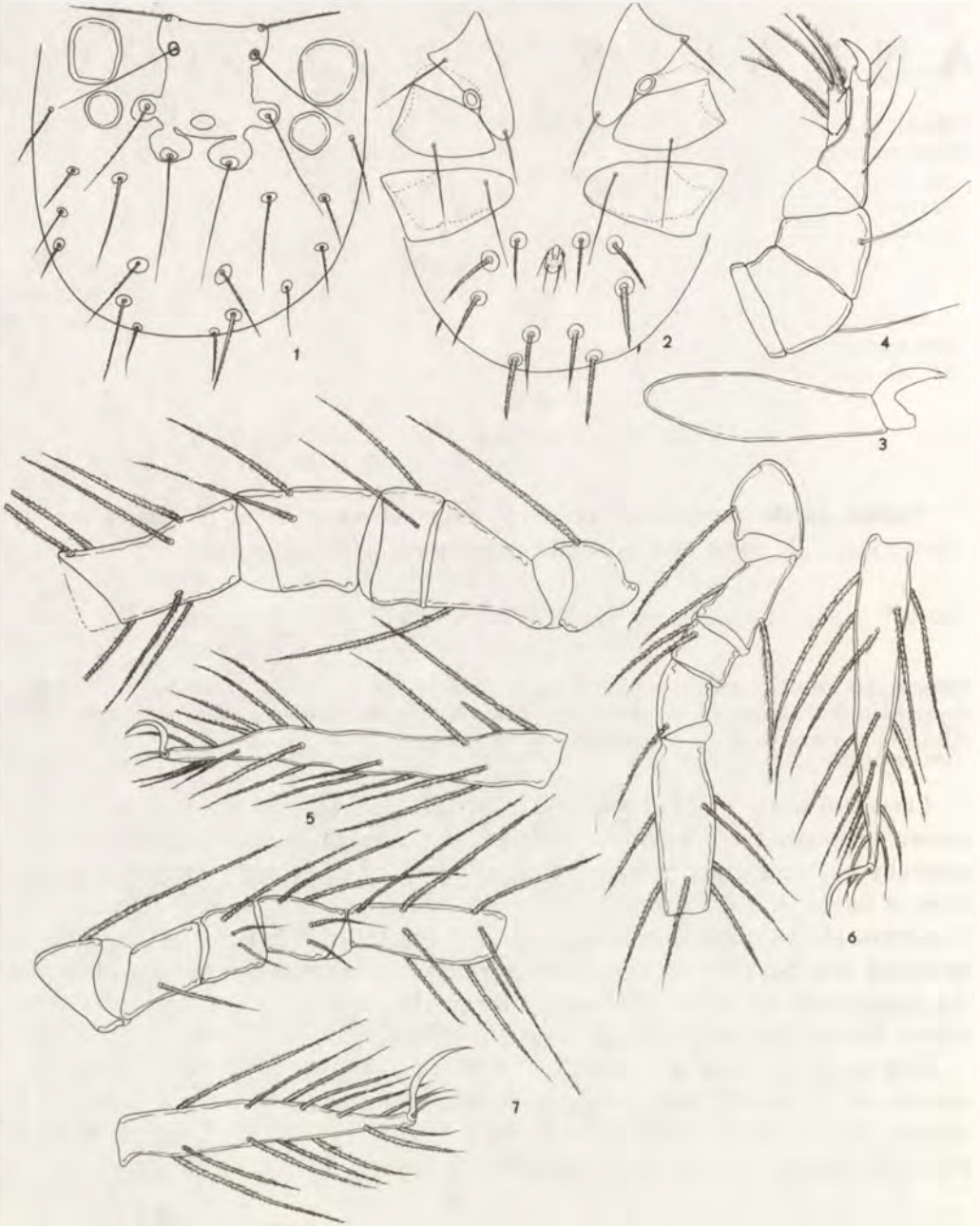
Larvae of water mites of the superfamily *Hydryphantoidea* are still very poorly known. Though there exist descriptions of larvae of several species, they are generally not very exact and the larvae require a re-description. Original descriptions of larvae of a few species were presented by LUNDBLAD (1927). The paper of VAJNŠTEJN (1980) containing short but well illustrated diagnoses of ten species, including one North American, is of particular importance for the knowledge of the hydryphantoid larvae of Central Europe. The description of larva of *Protzia eximia* PROTZ was presented by BIESIADKA and CICHOCKA (1984).

This paper contains descriptions of hitherto unknown larvae of 11 water mite species of the superfamily *Hydryphantoidea*, and re-descriptions of larvae of 8 species. Almost all the materials come from laboratory cultures. Only the larva of *Panisoides setipes* (VIETS) originates from its natural habitat.

*Euthyas truncata* (NEUMAN) (Figs 1–7)

Previous descriptions are contained in papers of LUNDBLAD (1927), VIETS (1936) and VAJNŠTEJN (1980).

Mean length of idiosoma 330  $\mu\text{m}$ , breadth 300  $\mu\text{m}$ . Idiosoma outline nearly circular. This is in agreement with VAJNŠTEJN'S (1980) description, though accor-



Figs 1-7. *Euthyas truncata* (NEUMAN): 1 - dorsal surface, 2 - ventral surface, 3 - chelicera, 4 - palp, 5 - leg I, 6 - leg II, 7 - leg III.

ding to LUNDBLAD (1927) there is a distinct widening in the anterior part of idiosoma. Dorsal plate irregular in shape, large, occupying more than  $\frac{1}{3}$  idiosoma length. On the plate 4 pairs of setae. All, except 2 distinctly thinner pairs, ciliated. The character does not agree with the description by LUNDBLAD (1927) or that by VAJNSTEJN (1980) which differ also in this respect. Frontal organ pigmented, situated in the posterior part of dorsal plate. Eyes large, situated laterally to the dorsal plate, anterior distinctly larger than posterior.

Epimeral field occupying c.  $\frac{2}{3}$  idiosoma length. Shape and arrangement of epimeres agree with the descriptions of LUNDBLAD (1927) and VAJNSTEJN (1980). Anal plate rhomboid in outline, with anus situated in its anterior part, similar to that presented by LUNDBLAD (1927). Setae on the ventral surface of idiosoma, situated outside the epimeres and anal plate, ciliated, comparatively thick and set on oval platelets.

Infracapitulum c. 170  $\mu\text{m}$  long, chelicerae 150  $\mu\text{m}$  long. Basal segment of chelicerae slender. Palp comparatively large. Mean length: P.I – 8  $\mu\text{m}$ , P.II – 30  $\mu\text{m}$ , P.III – 30  $\mu\text{m}$ , P.IV – 77  $\mu\text{m}$ , P.V – 26  $\mu\text{m}$ . P.IV terminating with a well developed, tripartite, claw-like process. In the ventral pit of P.IV, P.V is set, with 4 thick, ciliated setae, and 3 thinner, bare.

Legs, as compared to idiosoma, relatively long, chaetotaxy with specific characters. Legs of I pair slightly longer than the remaining (Table).

Material: 2 ♀♀ collected on April 30th 1981 in an astatic reservoir near the lake Skanda (vicinity of Olsztyn), eggs laid on May 4th and 13th, numerous larvae hatched on May 28th and June 2nd. Incubation period 20–24 days.

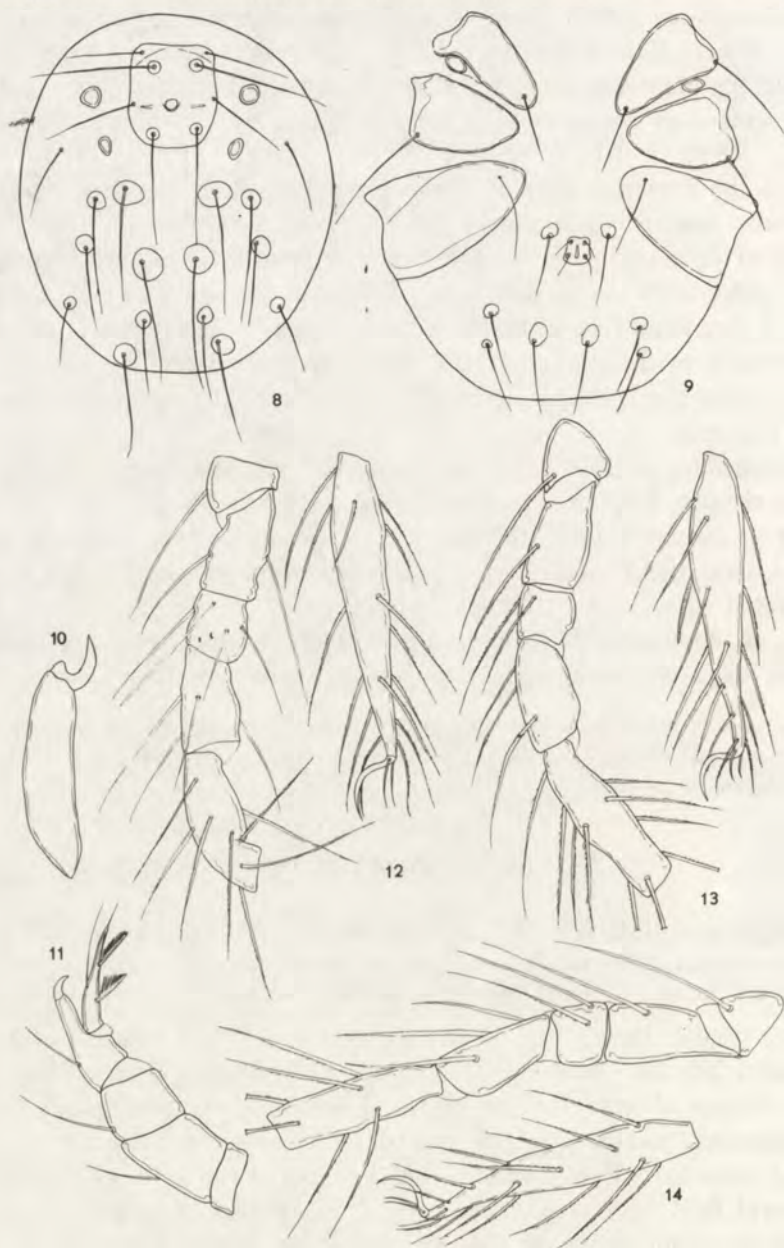
### *Thyasides dentatus* (THOR) (Figs 8–14)

Very imprecise descriptions of larvae were presented in papers of LUNDBLAD (1913, 1927) on which characteristics of VIETS (1936) and SPARING (1959) were based. According to LUNDBLAD (1927) larvae of this species are parasites of *Aedes lutescens* (Culicidae).

Larvae smaller than those of *Euthyas truncata*. Mean length of idiosoma 240  $\mu\text{m}$ , breadth 200  $\mu\text{m}$ . Dorsal plate rectangular in outline, with no microsculpture and with 4 pairs of setae. Besides, on the dorsal body surface 6 pairs of long setae, set on platelets, and 1 near the eyes of II pair, set directly on the body. All idiosomal setae bare. Eyes distinctly smaller than in the larva of *Euthyas truncata*.

Epimeral field very large, occupying c.  $\frac{3}{4}$  idiosoma length. Epimeres large, triangular in outline. Setae set similarly to those of other *Thyadinae*. Larval organ in shape of a small, oval opening adjoining epimeres of I pair and situated distinctly closer to the body margin than in the larva of *Euthyas truncata*. Anal plate rectangular, with elongate anus and 2 pairs of fine setae. Other setae of the ventral surface of idiosoma set on platelets.

Infracapitulum narrow, triangular, equals half idiosoma length (106  $\mu\text{m}$ ). Chelicerae narrow, c. 96  $\mu\text{m}$  long. Palp long, massive. Length: P.I – 9  $\mu\text{m}$ , P.II – 27



Figs 8-14. *Thyasides dentatus* (THOR): 8 - dorsal surface, 9 - ventral surface, 10 - chelicera, 11 - palp, 12 - leg I, 13 - leg II, 14 - leg III.

$\mu\text{m}$ , P.III – 25  $\mu\text{m}$ , P.IV – 58  $\mu\text{m}$ , P.V – 35  $\mu\text{m}$ . Basal segment rectangular, further 2 segments with long, bare setae. P.IV comparatively short, terminating with a claw-like process, with 3 setae of which 2 ventral have plumose processes.

Legs long, compared to idiosoma longer than in *Euthyas truncata*. Legs of I pair only slightly longer than those of III pair (Table).

Material: 4 ♀♀ collected on April 11th 1981 in an astatic reservoir near the lake Skanda (vicinity of Olsztyn), eggs laid on April 13th and 14th, numerous larvae hatched on May 5th. Incubation period 23–24 days.

### *Thyas barbiger* VIETS (Figs 15–21)

Previous descriptions of larvae (LUNDBLAD 1927, VIETS 1936, SPARING 1959) are strongly incompatible with our morphological observations. They may pertain to very young and not fully formed larvae.

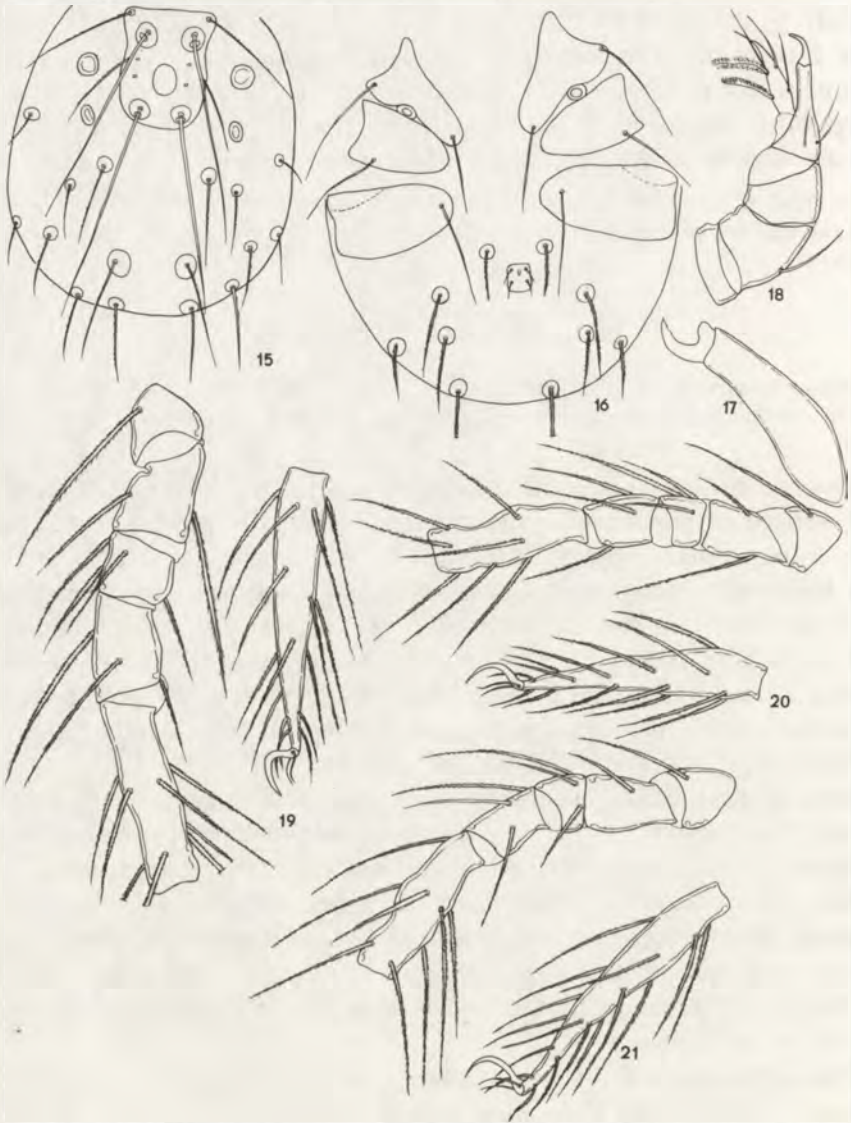
Idiosoma circular in outline, its length c. 230  $\mu\text{m}$ , breadth 200  $\mu\text{m}$ . On the dorsal surface of idiosoma, in the anterior body part a frontal plate. Below its middle frontal organ visible, surrounded by 4 openings found only in the genus *Thyas* KOCH. On dorsal plate 4 pairs of setae: 2 pairs shorter, of length equal to that of the plate, thin and ciliated, and 2 pairs thicker, very long (almost equal in length to idiosoma) and bare. All the remaining setae of the dorsal surface of idiosoma ciliated and set on platelets. According to LUNDBLAD (1927), VIETS (1936) and SPARING (1959) the frontal plate is divided in two parts, anterior and posterior with the frontal organ situated between them.

Epimeral field large, occupying more than half of the ventral surface of idiosoma. Epimeres of I and II pair triangular in outline, epimeres of III pair more rectangular. Larval organ situated in the middle, between epimeres of I and II pair. Like the larvae of the genera *Euthyas* PIERS. and *Thyasides* LUNDBL., larvae of the genus *Thyas* KOCH are characterized by the presence of setae on all the epimeres. Anal plate rectangular, with anus in its upper part and 2 pairs of short setae. Setae on the ventral surface of idiosoma, except those on epimeres, similar to those on the dorsal surface.

Infracapitulum small, 83  $\mu\text{m}$  in length, triangular in outline. Chelicerae somewhat smaller, 76  $\mu\text{m}$  long. Palps shorter than in the preceding genera *Euthyas* PIERS. and *Thyasides* LUNDBL. Length: P.I – 65  $\mu\text{m}$ , P.II – 32  $\mu\text{m}$ , P.III – 25  $\mu\text{m}$ , P.IV – 51  $\mu\text{m}$ , P.V – 37  $\mu\text{m}$ . P.IV terminating with a bent claw. P.V provided with a dagger-like process, 2 fan-like setae and 3 thin, bare setae. Setae on the first three palp segments also bare.

Legs rather long, with numerous ciliated setae. Length ratio of idiosoma and legs similar to that in the genus *Thyasides* LUNDBL. (Table).

Material: 1 ♀ collected on April 30th 1981 in a seasonal reservoir in Poznań, eggs laid on May 12th, numerous larvae hatched on May 28th; 2 ♀♀ collected on May 27th 1983 in an astatic reservoir near Olsztyn, eggs laid on June 1st and 2nd, numerous larvae hatched on June 13th and 15th; 1 ♀ collected in an astatic reservoir near the lake Skanda (vicinity of Olsztyn) on April 15th 1983, eggs laid



Figs 15–21. *Thyas barbigera* VIETS: 15 – dorsal surface, 16 – ventral surface, 17 – chelicera, 18 – palp, 19 – leg I, 20 – leg II, 21 – leg III.

on May 11th, larvae hatched on May 24th; 1 ♀ collected in a peat-bog Redykajny (vicinity of Olsztyn) on April 22nd 1982, eggs laid on May 9th, larvae hatched on May 25th. Incubation period in various cultures from 12 to 16 days.

#### *Thyas dirempta* KOENIKE (Figs 22–28)

An incomplete description of larva was presented by VAJNŠTEJN (1980).

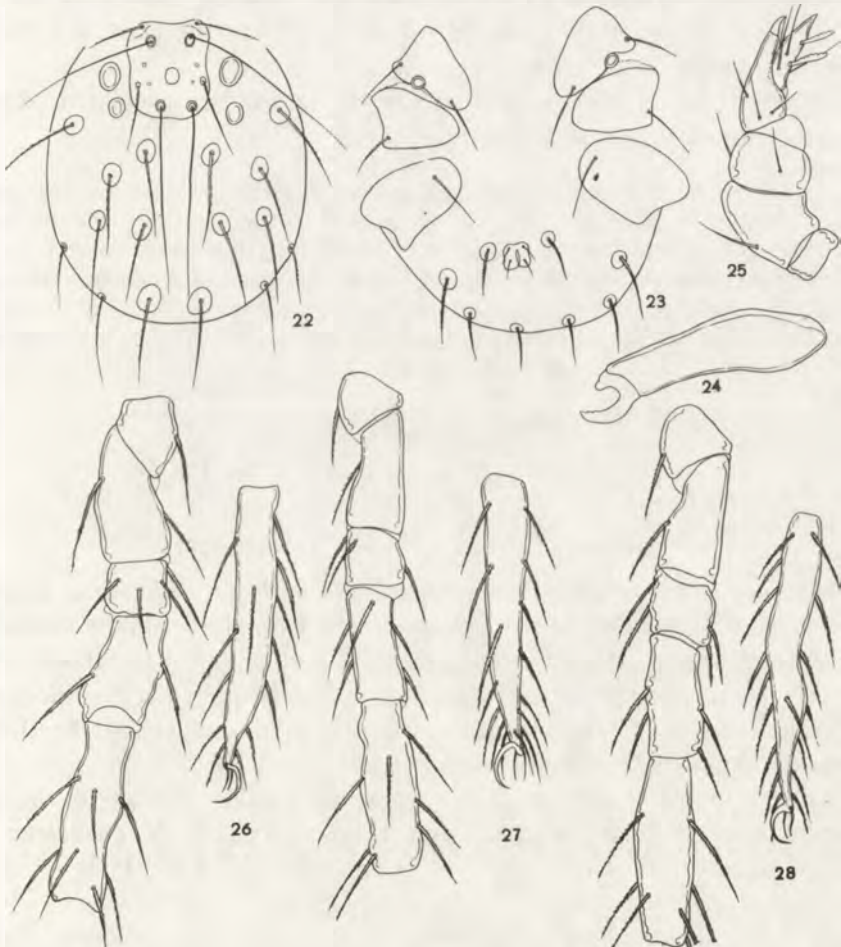
Idiosoma length 236 µm, breadth 180 µm. Dorsal plate shorter than in *Th. barbigera*, occupying c.  $\frac{1}{3}$  idiosoma length; frontal organ situated in the middle of

dorsal plate. Eyes situated like in *Thyasides dentatus*. Bases of dorsal setae outside the dorsal plate of even size. Part of the ventral surface of idiosoma occupied by epimeres larger than in the preceding species, epimeres much narrower. Anus in shape of a long slit. Arrangement of setae in relation to the anal plate different from that in *Th. barbiger*.

Infracapitulum small, its length 65  $\mu\text{m}$ . Chelicerae 63  $\mu\text{m}$  long. The structure of palps is distinctly species-specific. Length: P.I – 5  $\mu\text{m}$ , P.II – 36  $\mu\text{m}$ , P.III – 22  $\mu\text{m}$ , P.IV – 48  $\mu\text{m}$ , P.V – 28  $\mu\text{m}$ . P.II is wider and longer than in *Th. barbiger*. P.V comparatively short, bluntly terminated, very broad. Setae short, 2 ventral ones spatulate, with weakly incised margins.

Legs longer and more slender than in *Th. barbiger* (Table).

Material: 1 ♀ collected on March 11th 1983 in an astatic reservoir near Olsztynek, eggs laid on March 25th, 6 larvae hatched on April 6th. Incubation period 12 days.



Figs 22–28. *Thyas dirempta* KOEN.: 22 – dorsal surface, 23 – ventral surface, 24 – chelicera, 25 – palp, 26 – leg I, 27 – leg II, 28 – leg III.

*Thyas pachystoma* KOENIKE (Figs 29–35)

Larva hitherto unknown.

Larva large, body length c. 300  $\mu\text{m}$ , breadth 250  $\mu\text{m}$ . In the anterior part of dorsal surface of idiosoma, like in the entire subfamily *Thyadinae*, rectangular dorsal plate, different from that in *Th. barbiger*a in the presence of deeper incisions at the level of second pair setae. Platelets on which setae of idiosoma are set very large, those of the pair of median setae behind frontal plate being the largest.

Epimeral field very large. Epimeres similar to those of larvae of *Th. barbiger*a. Larval organ similarly situated but more widened. Anal plate trapezoid, distinctly broader than in all the preceding species.

Infracapitulum large (140  $\mu\text{m}$  long). Chelicerae somewhat smaller than gnathosoma, 120  $\mu\text{m}$  long. Palps very long, the longest in the subfamily *Thyadinae*, like in *Euthyas truncata*. Length: P.I – 10  $\mu\text{m}$ , P.II – 50  $\mu\text{m}$ , P.III – 28  $\mu\text{m}$ , P.IV – 70  $\mu\text{m}$ , P.V – 47  $\mu\text{m}$ . P.IV provided with a long, bipartite claw, P.V dagger-like, like in other *Thyadinae*.

Legs very long (Table), robust, richly setose. All setae ciliated. Ambulacral claws exceptionally long and wavy.

Material: 1 ♀ collected on April 22nd in a peat-bog Redykajny near Olsztyn, eggs laid on May 17th, larvae hatched on May 26th; 1 ♀ collected on April 3rd in a peat-bog near the lake Tyrsko (Olsztyn), eggs laid on May 11th, larvae hatched on May 25th; 3 ♂♂ collected on May 21st 1982 in a peat-bog near Jonkowo (vicinity of Olsztyn), eggs laid on May 26th and 27th, larvae hatched on June 11th; 1 ♂ collected on April 2nd 1983 in a peat-bog near the lake Sgnitek (vicinity of Olsztyn), eggs laid on May 12th, larvae hatched on June 23rd. Incubation period from 14 to 40 days, depending on a season of the year.

*Thyas rivalis* KOENIKE (Figs 36–42)

A very superficial description of larva was presented by VIETS (1923).

Larvae not much smaller than those of *Th. barbiger*a. Idiosoma length c. 220  $\mu\text{m}$ , breadth 200  $\mu\text{m}$ . Dorsal plate deeply incised on sides, almost divided in two parts. Frontal organ situated in the posterior part of the plate. Bases of setae of mid body part, situated outside the plate, exceptionally large. Idiosoma setae rather thick and very long. Ventral surface of idiosoma similar to that in *Th. pachystoma*. Anal plate broadly oval.

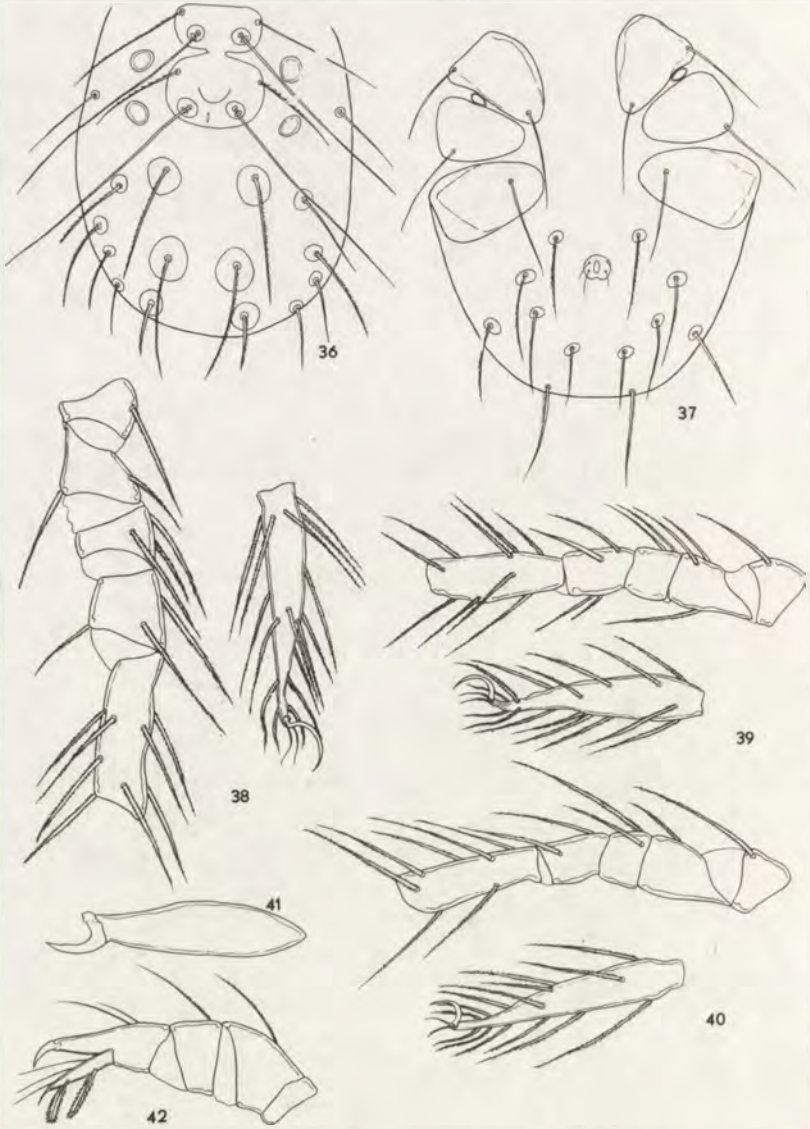
Infracapitulum 100  $\mu\text{m}$  long. Chelicerae and palps similar to those of *Th. pachystoma* but distinctly shorter and thinner. Length of chelicerae 85  $\mu\text{m}$ . Length of palps: P.I – 6.7  $\mu\text{m}$ , P.II – 33  $\mu\text{m}$ , P.III – 24  $\mu\text{m}$ , P.IV – 53  $\mu\text{m}$ , P.V – 32  $\mu\text{m}$ .

Legs short, setae similar to those in all the genus *Thyas* KOCH (Table).





Figs 29–35. *Thyas pachystoma* KOEN.: 29 – dorsal surface, 30 – ventral surface, 31 – chelicera, 32 – palp, 33 – leg I, 34 – leg II, 35 – leg III.



Figs 36-42. *Thyas rivalis* KOEN.: 36 - dorsal surface, 37 - ventral surface, 38 - leg I, 39 - leg II, 40 - leg III, 41 - chelicera, 42 - palp.

Material: 1 ♀ collected on April 23rd 1981 in a spring in the valley of Bogdanka (Poznań), eggs laid on April 25th, larvae hatched on May 15th; 2 ♀♀ collected in the source of the river Łyna (vicinity of Nidzica) on May 5th 1983, eggs laid on May 10th and 17th, larvae hatched on May 25th and June 11th. Incubation period 15–25 days.

### *Thyas bruzelli* LUNDBLAD (Figs 43–49)

An incomplete description of larva was presented by VAJNŠTEJN (1980).

Larvae rather large. Idiosoma length in two measured specimens 275 and 290 µm, breadth 250 and 220 µm. Dorsal plate distinctly broader in its posterior part in which frontal organ and 2 pairs of elongate openings are situated. Setae arranged like in other species. Platelets on which median setae are set very large.

Epimeral field very large. Epimeres large, all triangular in outline. Larval organ in shape of small, round openings situated in the middle, between epimeres of I and II pair. Anal plate rectangular, small, setae on the ventral surface short, set on small platelets.

Infracapitulum fairly large (117 and 127 µm long). Chelicerae 94 µm long, similar to those in other species of the genus *Thyas* KOCH. Palps long, P.I – 7.8 and 5.2 µm, P.II – 33 and 39 µm, P.III – 33 and 31 µm, P.IV – 59 and 62 µm, P.V – 44 and 34 µm. On the dorsal side of P.V a characteristic ciliated seta.

Legs long, robust, with thick, ciliated setae (Table).

Material: 1 ♀ collected in an astatic reservoir in Poznań, Wola on April 23rd 1981, eggs laid on April 27th, 2 larvae hatched on May 13th. Incubation period 17 days.

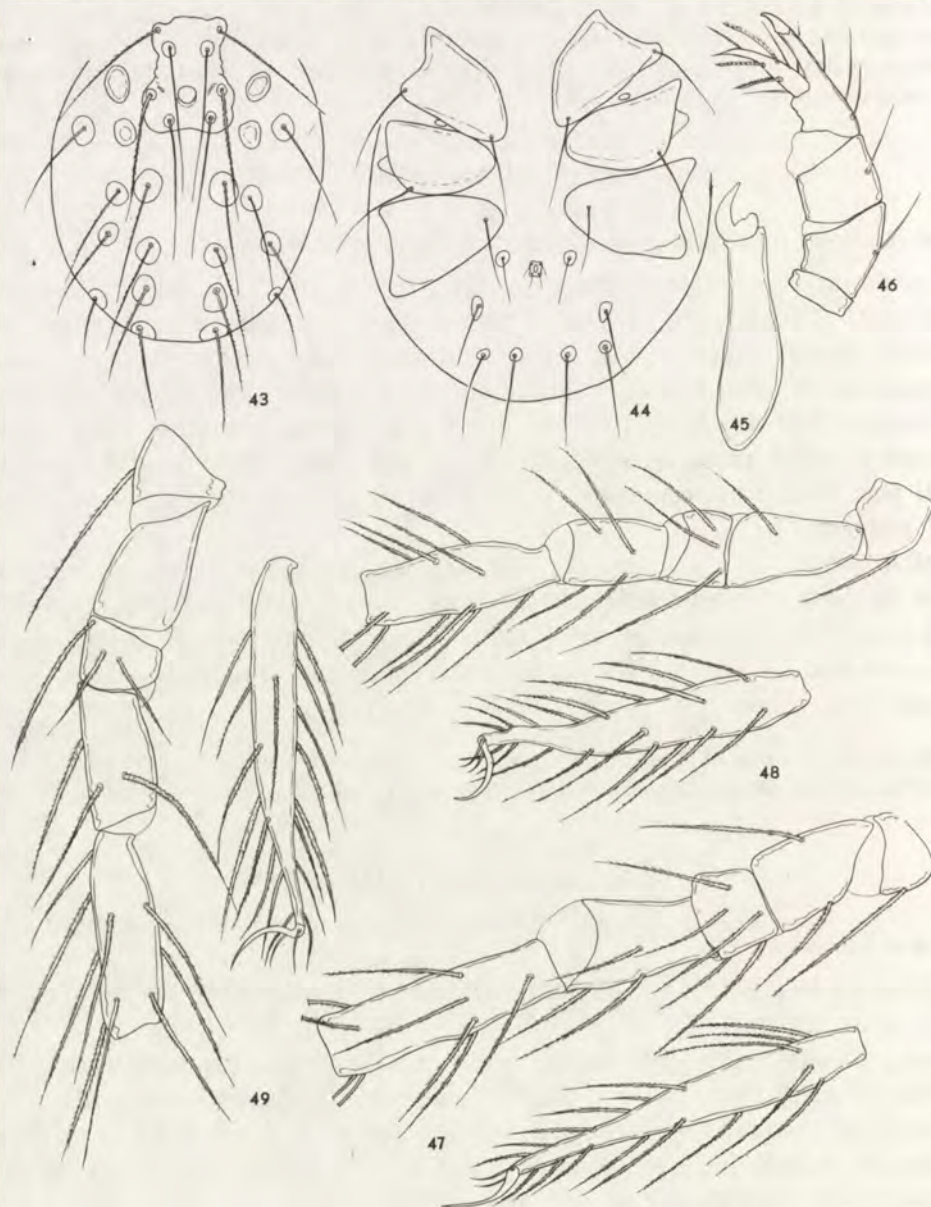
### *Panisoides setipes* (VIETS) (Figs 50–55)

Larva hitherto unknown.

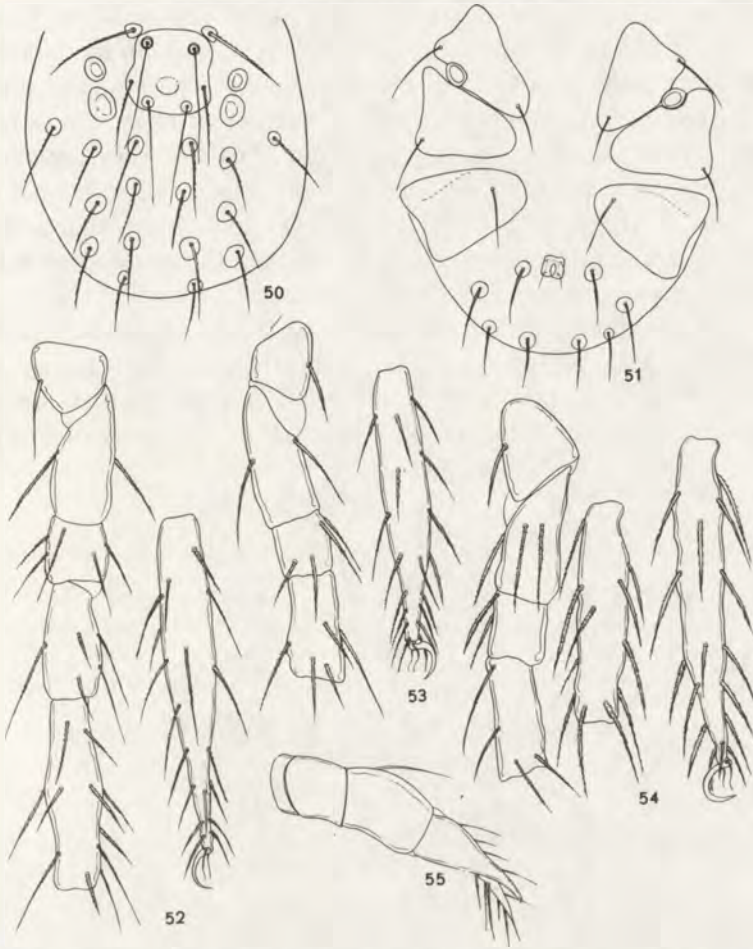
Idiosoma length 235 µm, breadth 220 µm. Larva resembling the genus *Thyas* KOCH in its structure. Dorsal plate formed similarly to that of larvae of *Thyas dirempta*. Frontal organ rather large, visible in the posterior part of the plate. The position of the first pair of thick, ciliated setae of the dorsal surface is a distinctive character as compared with the previous genera. In *P. setipes* they are situated outside the frontal plate, on separate platelets. The remaining 3 pairs of setae associated with frontal plate set similarly to those of the genus *Thyas* KOCH. Eyes large, larger than in the genera *Thyas* KOCH and *Thyasides* LUNDBL., but smaller than in the genus *Euthyas* PIERS.

Epimeral field very large, triangular, setae like in the entire subfamily *Thyadinae*. Larval organ large, oval, situated close to external margins, between epimeres of I and II pair. Anal plate rectangular. Anus large. Ventral setae, like in the preceding genera, set on platelets.

Infracapitulum narrow and long (104 µm). Chelicerae and palps similar to



Figs 43-49. *Thyas bruzelli* LUNDBL.: 43 - dorsal surface, 44 - ventral surface, 45 - chelicera, 46 - palp, 47 - leg I, 48 - leg II, 49 - leg III.



Figs 50–55. *Panisoides setipes* (VIETS): 50 – dorsal surface, 51 – ventral surface, 52 – leg I, 53 – leg II, 54 – leg III, 55 – palp.

those in larvae of the genus *Thyas* KOCH. Palp length: P.I – 3.8  $\mu\text{m}$ , P.II – 36  $\mu\text{m}$ , P.III – 29  $\mu\text{m}$ , P.IV – 49  $\mu\text{m}$ , P.V – 23  $\mu\text{m}$ .

Legs long (Table), richly setose. Ambulacral claws wavy.

Material: 1 larva collected on June 25th 1983 in the source of the river Łyna (vicinity of Nidzica). It was identified basing on the presence of adults and deutonymphs at the same locality.

#### *Hydryphantes ruber* (GEER) (Figs 56–63)

Very superficial descriptions of larvae were presented by KOENIKE (1908) and VIETS (1936). A more complete characteristic is contained in the paper of VAJNŠTEJN (1980).

Larva purple coloured. Smaller than larvae of the genus *Thyas* KOCH. Mean length of idiosoma 210  $\mu\text{m}$ , breadth 180  $\mu\text{m}$ . Idiosoma oval, on its dorsal surface a heart-shaped plate of a rather variable shape. Anterior part of the plate with a characteristic microsculpture consisting of longitudinal wrinkles. On dorsal plate 2 pairs of setae: 1 pair of comparatively long and 1 pair of short, median. In the posterior part of dorsal plate, in the median line, poorly visible frontal organ. In the anterior part of the plate 2 pairs of setae set on 2 oval platelets. Eyes small situated laterally to the plate, anterior pair larger than the posterior. On the dorsal surface, besides, 6 pairs of ciliated setae with bases.

Epimeral field occupying half of the ventral surface of idiosoma. Epimeres of II pair the smallest, with no setae. Epimeres of III pair the largest, somewhat removed from those of II pair, with 1 seta set differently than in species of the preceding genera. Setae on epimeres of I pair set as in larvae of the preceding



Figs 56–63. *Hydryphantes ruber* (GEER): 56 – dorsal surface, 57 – ventral surface, 58 – variability of the dorsal plate, 59 – chelicera, 60 – palp, 61 – leg I, 62 – leg II, 63 – leg III.

genera. Anal plate rhomboid, according to the description of VAJNSTEJN (1980) triangular, with a differently situated anus.

Infracapitulum comparatively large and massive, rather broad, 110  $\mu\text{m}$  long. Chelicerae 105  $\mu\text{m}$  long, broader than in the subfamily *Thyadinae*. Basal segment with a characteristic microsculpture consisting of longitudinal grooves, on the external side. Antychela terminating with a tubercle, chela crescentic. Palps short, P.IV terminating with a bipartite claw. P.V elongate, its tip overreaching claws of P.IV. The character is in complete disagreement with the description and figures of VAJNSTEJN (1980). Length of particular palp segments: P.I – 6  $\mu\text{m}$ , P.II – 20  $\mu\text{m}$ , P.III – 27  $\mu\text{m}$ , P.IV – 38  $\mu\text{m}$ , P.V – 14  $\mu\text{m}$ .

Legs short (Table), with thick segments. Legs of I pair the longest, their length exceeding that of idiosoma. Basifemur and telofemur very short. Tibia and tarsus richly setose. Setae thick, ciliated. Empodial claw delicate, sickle-like bent. Ambulacral claws short, feebly bent.

Material: 2 ♀♀ collected in an astatic reservoir in Poznań, Wola: 1 collected on June 11th 1980, eggs laid on June 12th, larvae hatched on July 6th; 1 collected on April 23rd 1981, eggs laid on April 29th, larvae hatched on May 28th; 3 ♀♀ collected in an astatic reservoir near the lake Skanda (vicinity of Olsztyn): 2 collected on April 26th 1984, eggs laid on May 5th and 11th, larvae hatched on May 25th and 28th; 1 collected on May 15th 1984, eggs laid on May 18th, larvae hatched on May 25th. Incubation period 7–30 days.

### *Hydryphantes hellichi* THON (Figs 64–70)

Larva hitherto unknown.

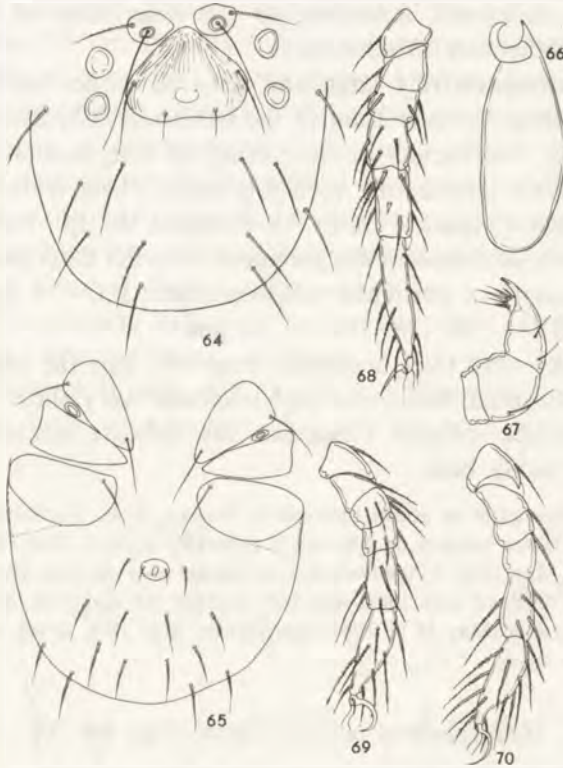
Larvae smaller than those of *H. ruber*. Idiosoma length 145  $\mu\text{m}$ , breadth 125  $\mu\text{m}$ . Dorsal surface similar to that of larvae of the preceding species. Dorsal plate larger than in *H. ruber*, pear-shaped, more uniform than in the preceding species; almost its entire surface covered with microsculpture. Platelets on which 2 pairs of setae are set larger and rounder.

Epimeral field smaller than in *H. ruber*. Larval organ strongly widened. Anal plate oval in outline.

Infracapitulum 85  $\mu\text{m}$  long. Chelicerae of a shape similar to that found in *H. ruber*, but antychela terminating dagger-like. Length of chelicerae 80  $\mu\text{m}$ . Palp very characteristic. P.V shorter than in *H. ruber*, with 3 thick and 3 thin and short setae. Palp length: P.I – 5  $\mu\text{m}$ , P.II – 20  $\mu\text{m}$ , P.III – 13  $\mu\text{m}$ , P.IV – 26  $\mu\text{m}$ , P.V – 14  $\mu\text{m}$ .

Legs (Table) of a structure similar to that found in the entire genus *Hydryphantes* KOCH. Legs of I pair equal in length to idiosoma, other legs only slightly shorter.

Material: 1 ♀ collected in floods of the lake Domowe in Szczytno on May 6th 1982, eggs laid on May 9th, larvae hatched on May 26th; 1 ♀ collected in a peat-bog near the lake Sgnitek (vicinity of Olsztyn) on May 26th 1982, eggs laid on June 2nd, larvae hatched on June 23rd. Incubation period 17–20 days.



Figs 64–70. *Hydryphantes hellichi* THON: 64 – dorsal surface, 65 – ventral surface, 66 – chelicera, 67 – palp, 68 – leg I, 69 – leg II, 70 – leg III.

### *Hydryphantes nonundulatus* VIETS (Figs 71–77)

Larva hitherto unknown.

Body length 150  $\mu\text{m}$ , breadth 135  $\mu\text{m}$ . Body oval. On the dorsal surface a large dorsal plate, heart-shaped, situated between two pairs of eyes. The plate provided with a poorly distinct microsculpture in shape of lines disappearing in its posterior part. Setae on dorsal plate situated similarly as in other species of the genus *Hydryphantes* KOCH. Frontal organ close to the posterior margin of the plate, poorly visible. In front of the dorsal plate, in anterior body part, 2 pairs of dorsal setae set on separate platelets of different shape. Setae of I pair shorter, broader and ciliated, set on an elliptical platelet with a long, medially directed process. The process touches directly another platelet, roundish, on which II pair setae are set. Setae of II pair thin, long, bare and reaching far outside the dorsal plate. Besides, on the dorsal surface 5 pairs of rather thick and ciliated setae of even length.



Epimeral field occupying a considerable part of the ventral surface of idiosoma. Epimeres of I and III pair rather large, irregularly ovate in outline, epimeres of II pair much smaller, their outline triangular. Larval organ large, ovate. Anal plate very small, ovate, with round anus posteriorly. On the sides of the plate 1 pair of short, bare setae. In other species of the genus *Hydryphantes* KOCH the setae are set on anal plate.

Infracapitulum 95  $\mu\text{m}$  long, rather broad, its anterior margin rounded. Chelicerae c. 90  $\mu\text{m}$  long. Basal segment massive. Claw of the basal segment spatulate. Chela crescentic, set under the claw of the basal segment. Palps short: P.I – 7  $\mu\text{m}$ , P.II – 23  $\mu\text{m}$ , P.III – 16  $\mu\text{m}$ , P.IV – 26  $\mu\text{m}$ , P.V – 12  $\mu\text{m}$ . The strongly shortened P.V is distinct in its interesting structure. Bipartite claw of P.IV strongly curved, one part sharply, another bluntly terminated and somewhat shorter. Last segment strongly elongate, on its termination 2 processes. It is also characterized by being very sparsely setose.

Legs (Table) as compared with larvae of other species of the genus rather long, of a structure similar to that found in other larvae.

Material: 1 ♀ collected on June 11th 1980 in an astatic reservoir in Poznań, Wola, eggs laid on June 11th, larvae hatched on July 10th. Incubation period c. 30 days.

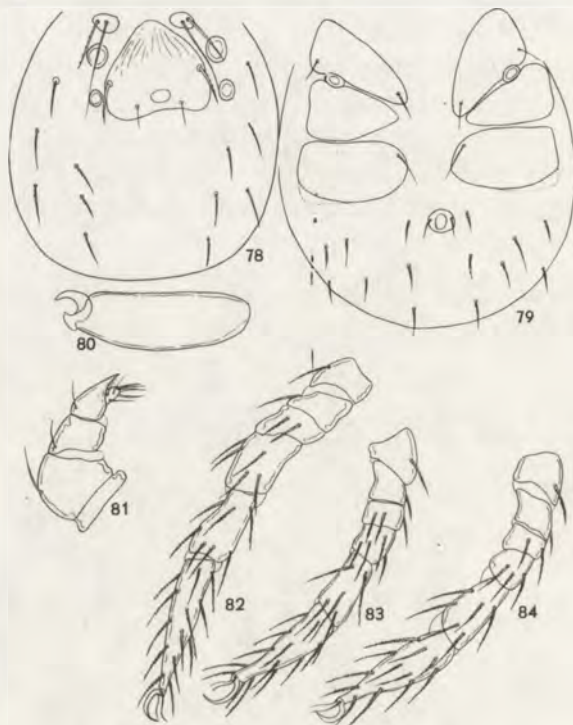


Figs 71–77. *Hydryphantes nonundulatus* VIETS: 71 – dorsal surface, 72 – ventral surface, 73 – leg I, 74 – leg II, 75 – leg III, 76 – palp, 77 – chelicera.

*Hydryphantes bayeri* PISAŘOVIC (Figs 78–84)

Larva hitherto unknown.

Idiosoma length 143  $\mu\text{m}$ , breadth 123  $\mu\text{m}$ . Dorsal plate large, broadly heart-shaped in outline, its anterior part microsculptured with striae. Two pairs of setae, situated in front of the dorsal plate, set on a pair of oval platelets. All setae of the dorsal surface shorter than in the preceding species.



Figs 78–84. *Hydryphantes bayeri* PISAŘOVIC: 78 – dorsal surface, 79 – ventral surface, 80 – chelicera, 81 – palp, 82 – leg I, 83 – leg II, 84 – leg III.

Epimeres large, first 2 pairs triangular. Epimeres of III pair nearly rectangular in outline, with broadly rounded median margin. Setae on epimeres short. Anal plate large, with large anus and a pair of short setae. Setae on the ventral surface also with small bases; they are the shortest and the thinnest of setae of larvae of the genus *Hydryphantes* KOCH.

Infracapitulum small (76  $\mu\text{m}$  long), chelicerae 71  $\mu\text{m}$  long, rather broad, of breadth even on their entire length, chela short, antychela tubercle-like, fairly high. Palps rather characteristic, short and broad. All setae ciliated, setae on P.III the longest. P.IV terminating with a small, sharp claw. P.V short, with numerous

setae. Palp length: P.I – 5  $\mu\text{m}$ , P.II – 22  $\mu\text{m}$ , P.III – 11  $\mu\text{m}$ , P.IV – 23  $\mu\text{m}$ , P.V – 8  $\mu\text{m}$ .

Legs short, especially basifemur and telofemur (Table).

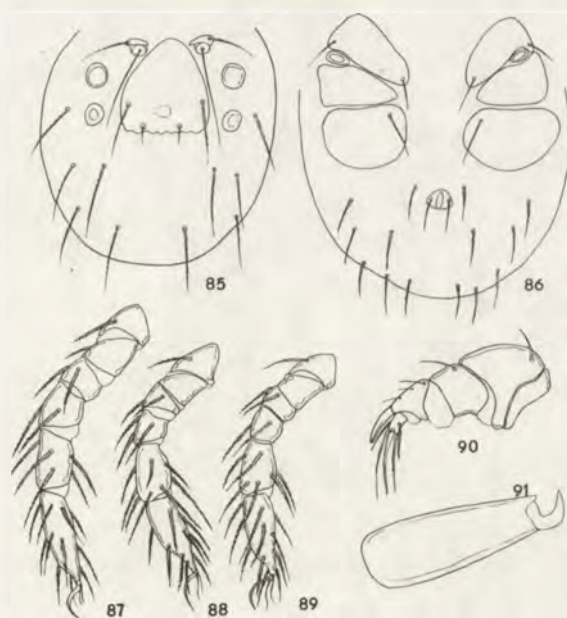
Material: 1 ♀ collected on April 9th 1984 in an astatic reservoir near the lake Skanda (vicinity of Olsztyn), eggs laid on April 16th, larvae hatched on May 1st. Incubation period 15 days.

### *Hydryphantes crassipalpis* KOENIKE (Figs 85–91)

Larvae were described by VAJNŠTEJN (1980) but his description and figures show marked differences when compared to our material.

Idiosoma round, 152  $\mu\text{m}$  long, 106  $\mu\text{m}$  broad. Dorsal plate triangular in outline, with irregularly incised posterior margin. VAJNŠTEJN (1980) drew a straight margin. Microsculpture poorly visible. In front of dorsal plate 2 pairs of setae on separate platelets of different shape. According to VAJNŠTEJN (1980) the setae on idiosoma are shorter and thicker than in the studied material.

Epimeral field occupying half of the ventral surface of idiosoma. Larval organ strongly broadened, situated on body sides, between epimeres of I and II pair. Epimeres of III pair fairly large, their outline nearly rectangular, with a broadly rounded posterior margin. Anal plate oval, with large, elongate anus and 1 pair of setae. Setae on the ventral surface of idiosoma distinctly thinner than in the figures of VAJNŠTEJN (1980).



Figs 85–91. *Hydryphantes crassipalpis* KOEN: 85 – dorsal surface, 86 – ventral surface, 87 – leg I, 88 – leg II, 89 – leg III, 90 – palp, 91 – chelicera.

Infracapitulum narrow, 71  $\mu\text{m}$  long. Chelicerae small (56  $\mu\text{m}$  long), comparatively narrow, basal segment almost rectangular, chela delicate. Palps short and broad, P.I and P.II broadest. Claw on P.IV long, straight, bipartite. P.V short, nearly cylindrical, prolonged as a thick, ciliated seta next to which a few similar but somewhat thinner setae are set. Length: P.I – 5  $\mu\text{m}$ , P.II – 16  $\mu\text{m}$ , P.III – 15  $\mu\text{m}$ , P.IV – 26  $\mu\text{m}$ , P.V – 10  $\mu\text{m}$ .

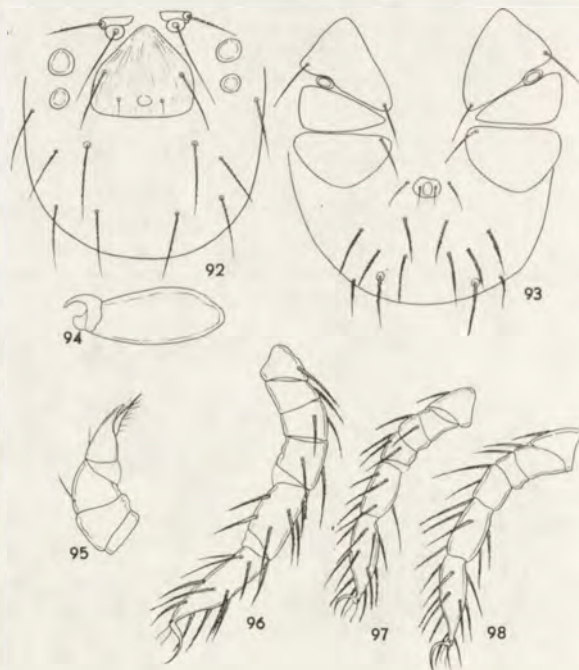
Legs (Table) relatively short. Legs of I pair shorter than idiosoma and only slightly longer than the other legs.

Material: 1 ♀ collected on May 5th 1981 in the valley of Bogdanka in Poznań, Wola, eggs laid on May 19th, larvae hatched on June 4th; 4 ♀♀ collected in an astatic reservoir near the lake Skanda (vicinity of Olsztyn): 1 on April 28th 1982, eggs laid on May 5th, larvae hatched on May 25th; 1 on May 14th 1982, eggs laid on May 20th, larvae hatched on June 4th; 2 on May 17th 1983, eggs laid on May 20th, larvae hatched on June 1–3rd. Incubation period 12–20 days.

### *Hydryphantes abnormis* KOENIKE (Figs 92–98)

Larva of this species was superficially described by KOENIKE (1908), and some morphological characters were given by VIETS (1936).

Idiosoma oval, c. 120  $\mu\text{m}$  long and 105  $\mu\text{m}$  broad. Dorsal plate with a distinct microsculpture on its entire surface. Shape of the plate and arrangement of setae



Figs 92–98. *Hydryphantes abnormis* KOEN: 92 – dorsal surface, 93 – ventral surface, 94 – chelicera, 95 – palp, 96 – leg I, 97 – leg II, 98 – leg III.

similar to those in *H. crassipalpis*. Paired platelets situated in front of dorsal plate also like in the preceding species. Setae on idiosoma rather long.

Epimeral field large. All epimeres triangular in outline, those of I pair the largest, of II pair the smallest. Larval organ of a shape and position similar to those found in the preceding species. Anal plate broad oval, with large anus and a pair of setae.

Infracapitulum 65  $\mu\text{m}$  long. Chelicerae very small (55  $\mu\text{m}$  long), antychela in shape of a triangular tubercle, chela strongly bent. Palps thick and short, P.V elongate, richly setose, P.IV with a straight, bipartite claw. Length: P.I – 5  $\mu\text{m}$ , P.II – 20  $\mu\text{m}$ , P.III – 13  $\mu\text{m}$ , P.IV – 22  $\mu\text{m}$ , P.V – 9  $\mu\text{m}$ .

Legs short (Table), richly setose, like in the preceding species.

Material: 1 ♀ collected on April 30th 1981 in an astatic reservoir in Poznań, Wola, eggs laid on May 7th, larvae hatched on May 24th; 2 ♀♀ collected on May 10th 1984 in an astatic reservoir near the lake Skanda (vicinity of Olsztyn), eggs laid on May 18th, larvae hatched on May 29th. Incubation period 11–18 days.

### *Hydryphantes planus* THON (Figs 99–105)

The larva described by VAJNSTEJN (1980) as *H. planus* differs distinctly from our materials and may represent a different species.

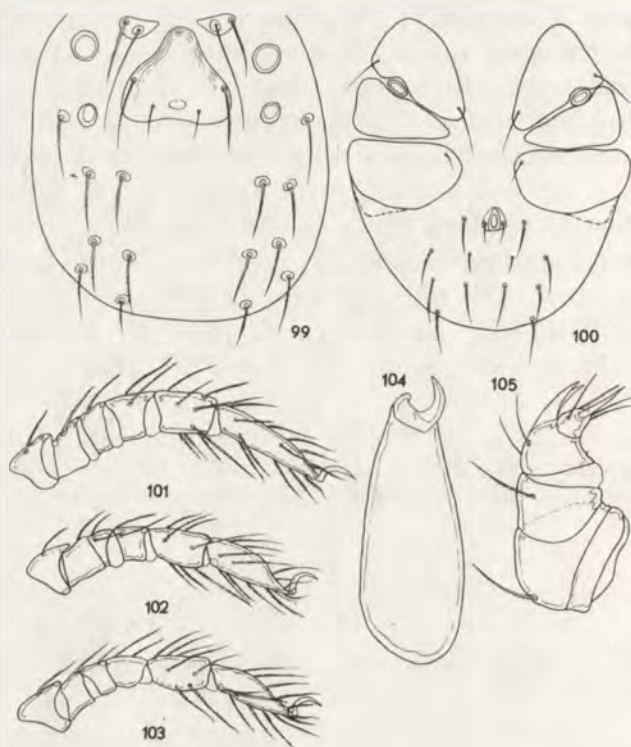
Idiosoma length 155  $\mu\text{m}$ , breadth 123  $\mu\text{m}$ . Dorsal plate broadly pear-shaped. Frontal organ at the bottom of the plate. Microsculpture only on the sides of dorsal plate, barely visible. Setae in the anterior body part, in front of dorsal plate, set on one, undivided, large, triangular platelet. Setae on the dorsal body surface rather long and thick, with bases large but smaller than in the subfamily *Thyadinae*.

Epimeral field occupying  $\frac{1}{3}$  idiosoma. Epimeres of I and III pair large. Larval organ broad oval. Anal plate trapezoid, with large anus and a pair of rather long, bare setae.

Infracapitulum 83  $\mu\text{m}$  long, chelicerae rather broad, 76  $\mu\text{m}$  long. Palps short and thick. P.IV terminating with a rather short, bipartite claw. P.V very short, conical, terminating with 1 thick and 4 somewhat thinner setae. Palp length: P.I – 6  $\mu\text{m}$ , P.II – 17  $\mu\text{m}$ , P.III – 16  $\mu\text{m}$ , P.IV – 26  $\mu\text{m}$ , P.V – 15  $\mu\text{m}$ .

Legs short (Table), all pairs shorter than idiosoma.

Material: 1 ♀ collected on April 23rd 1981 in an astatic reservoir in Poznań, Wola, eggs laid on April 24th, larvae hatched on May 13th; 1 ♀ collected in floods of the lake Domowe in Szczytno on May 6th 1982, eggs laid on May 7th, larvae hatched on May 26th; 2 ♀♀ collected in an astatic reservoir near the lake Skanda (vicinity of Olsztyn) on April 22nd 1983, eggs laid on April 25th, larvae hatched on May 13th and 20th. Incubation period 19–26 days.



Figs 99–105. *Hydryphantes planus* THON: 99 – dorsal surface, 100 – ventral surface, 101 – leg I, 102 – leg II, 103 – leg III, 104 – chelicera, 105 – palp.

### *Hydryphantes peroviensis* UDALZOV (Figs 106–112)

Larva hitherto unknown.

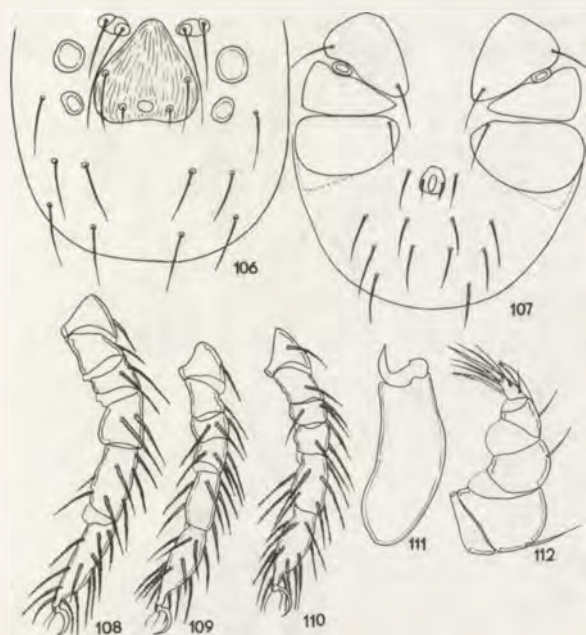
Idiosoma length 150  $\mu\text{m}$ , breadth 120  $\mu\text{m}$ . Dorsal plate large, pear-shaped, with distinct longitudinal microsculpture. Anterior platelets of varied size, adjoining each other.

Epimere shape similar to that found in larvae of *H. planus*, anal plate more oval, with shorter setae.

Infracapitulum 68  $\mu\text{m}$  long, rather broad, chelicerae short, their external surface with a linear microsculpture, like in most species of the genus. Palps similar to those of *H. planus*, claw bipartite, almost straight. P.V short, terminating with a thick seta surrounded by 4 thinner setae. At the base of the segment a thick seta with a claw-like incised margin, not found in the preceding species of *Hydryphantes* KOCH. Palp length: P.I – 5  $\mu\text{m}$ , P.II – 17  $\mu\text{m}$ , P.III – 14  $\mu\text{m}$ , P.IV – 25  $\mu\text{m}$ , P.V – 12  $\mu\text{m}$ .

Legs similar to those of *H. planus*, tibia and tarsus somewhat shorter (Table).

Material: 2 ♀♀ collected in an astatic reservoir near the lake Skanda (vicinity of Olsztyn): 1 on April 22nd 1983, eggs laid on May 17th, larvae hatched on May 23rd; 1 on May 17th 1983, eggs laid on June 2nd, larvae hatched on June 15th. Incubation period 8–12 days.



Figs 106–112. *Hydryphantes peroviensis* UDALZOV: 106 – dorsal surface, 107 – ventral surface, 108 – leg I, 109 – leg II, 110 – leg III, 111 – chelicera, 112 – palp.

### *Hydryphantes frici* THON (Figs 113–119)

Larva hitherto unknown.

Idiosoma length 160  $\mu\text{m}$ , breadth 125  $\mu\text{m}$ . Dorsal plate pear-shaped, distinctly longer than in larvae of the preceding species of the genus. Microsculpture rather poorly visible. Hind margin of the plate straight. Setae situated in front of eyes, behind frontal plate, set on separate but broadly united platelets. All setae on idiosoma longer than in the preceding species of the genus.

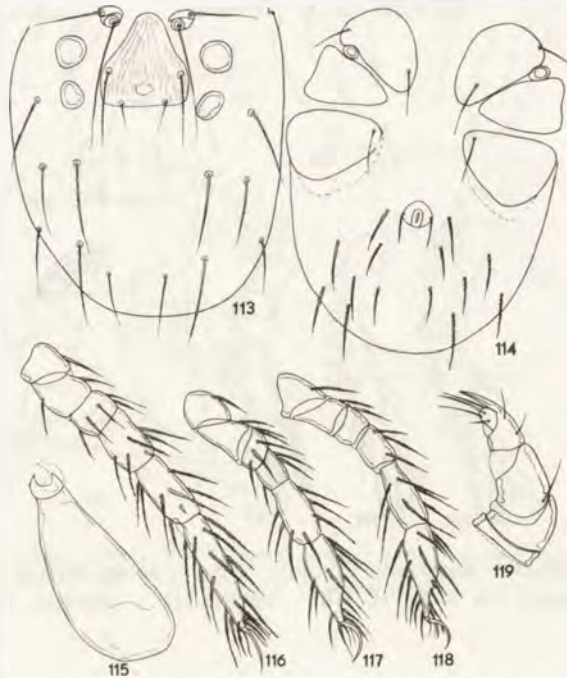
Epimeres small, epimeral field occupying c. half of the ventral surface of idiosoma. Epimeres of all pairs triangular in outline, larval organ situated on body margin, nearly oval. Anal plate elliptical, with large anus and a pair of setae. Other setae of the ventral surface of idiosoma rather thin, ciliated.

Infracapitulum 80  $\mu\text{m}$  long, chelicerae 74  $\mu\text{m}$  long, thick, chela short, antychela large. Palps small. P.II shorter than in larvae of other species of the genus *Hydryphantes* KOCH. P.IV with a long, straight, bipartite claw, longer than in other

larvae of the genus. P.V with long, bare setae. Palp length: P.I – 5  $\mu\text{m}$ , P.II – 19  $\mu\text{m}$ , P.III – 16  $\mu\text{m}$ , P.IV – 24  $\mu\text{m}$ , P.V – 13  $\mu\text{m}$ .

Legs short, like in larvae of the preceding species (Table).

Material: 1 ♀ collected on April 24th 1983 in an astatic reservoir near the lake Skanda (vicinity of Olsztyn), eggs laid on May 17th, larvae hatched on May 31st. Incubation period 14 days.



Figs 113–119. *Hydryphantes frici* THON: 113 – dorsal surface, 114 – ventral surface, 115 – chelicera, 116 – leg I, 117 – leg II, 118 – leg III, 119 – palp.

### *Hydryphantes thoni* (PIERSIG) (Figs 120–126)

Larva hitherto unknown.

Idiosoma length 160  $\mu\text{m}$ , breadth 130  $\mu\text{m}$ . Idiosoma elongate. Dorsal plate pear-like in outline, posteriorly broadly rounded, anteriorly tapered, with a delicate microsculpture. Setae of II pair much thinner and shorter, like in other species. Platelets in front of frontal plate divided by a suture. Setae of I pair very thick, those of II pair thin and long. Further setae on the dorsal surface very thick, the thickest in the genus *Hydryphantes* KOCH.

Epimere shape similar to that in *H. frici*, but larval organ more elongate and shifted towards the mid body axis. No anal plate, only large anus and a pair of setae visible.



Infracapitulum 70  $\mu\text{m}$  long, chelicerae 65  $\mu\text{m}$  long, chela very short. Palps short, P.IV terminating with a bipartite claw, P.V with 4 bare setae of which 1 is very thick. Palp length: P.I – 5  $\mu\text{m}$ , P.II – 14  $\mu\text{m}$ , P.III – 15  $\mu\text{m}$ , P.IV – 24  $\mu\text{m}$ , P.V – 10  $\mu\text{m}$ .

Legs rather short (Table), length of I pair roughly equal to that of idiosoma.

Material: 1 ♀ collected on April 30th 1982 in a peat-bog near the lake Tyrsko in Olsztyn, eggs laid on May 18th, larvae hatched on May 31st; 2 ♀♀ collected in a peat-bog near the lake Sgnitek near Gutkowo (vicinity of Olsztyn): 1 on April 21st 1982, eggs laid on April 22nd, larvae hatched on April 29th; 1 on April 22nd 1983, eggs laid on May 17th, larvae hatched on May 25th. Incubation period 8–12 days.



Figs 120–126. *Hydryphantes thoni* (PIERS.): 120 – dorsal surface, 121 – ventral surface, 122 – leg I, 123 – leg II, 124 – leg III, 125 – chelicera, 126 – palp.

### *Hydrodroma despiciens* (MÜLLER) (Fig. 127)

The larvae were described by numerous authors (WESENBERG-LUND 1918, LUNDBLAD 1927, VIETS 1936, SPARING 1959, PRASAD and COOK 1972, VAJNSTEJN 1980, WILES 1985).

The descriptions, especially those more recent, are fairly exact, so there is no need for a re-description. Attention should be drawn here only to the presence of a

large though poorly distinct frontal plate on the dorsal body surface. Most authors overlooked the plate, but it was noticed by LUNDBLAD (1927), though described as smaller and differently shaped. Also dorsocentral setae of I pair are characteristically set directly on the body, laterally to rather large platelets. Other characters of larvae of *H. despiciens* are in agreement with the descriptions. Legs rather long (Table), longer than idiosoma.

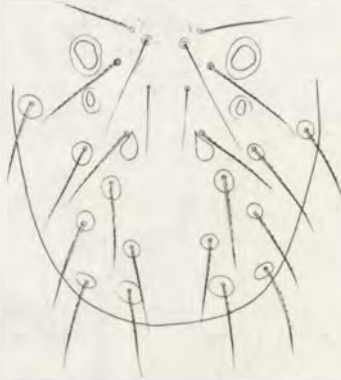


Fig. 127. Dorsal surface of the *Hydrodroma despiciens* (MÜLL.).

Table. Length (in  $\mu\text{m}$ ) of the leg segments of the investigated water mite species

Species	Leg	Trochanter	Basifemur	Telofemur	Genu	Tibia	Tarsus
<i>Euthyas truncata</i>	I	30	51	35	64	81	179
	II	29	39	27	35	76	148
	III	29	37	28	37	73	159
<i>Thyasides dentatus</i>	I	23	38	25	48	75	130
	II	24	40	23	39	73	127
	III	25	42	25	43	70	131
<i>Thyas barbiger</i>	I	19	38	22	43	69	113
	II	18	35	20	36	65	111
	III	25	38	18	33	69	115
<i>Thyas dirempta</i>	I	25	47	26	54	100	124
	II	22	43	25	39	79	116
	III	23	43	25	46	81	127
<i>Thyas pachystoma</i>	I	28	48	31	48	83	146
	II	26	42	25	44	74	141
	III	29	45	27	43	86	150
<i>Thyas rivalis</i>	I	21	37	25	43	65	100
	II	19	32	19	32	58	96
	III	23	36	22	32	66	101

Table. (contd)

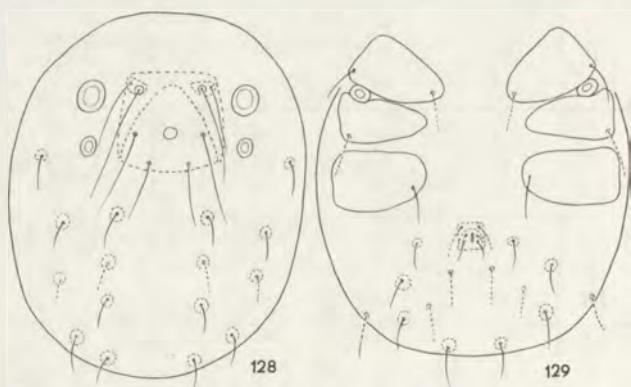
Species	Leg	Trochanter	Basifemur	Telofemur	Genu	Tibia	Tarsus
<i>Thyas bruzelli</i>	I	18 23	46 46	26 31	62 57	93 91	164 159
	II	18 20	46 52	28 26	57 47	89 73	143 156
	III	31 31	46 62	31 36	57 52	91 91	151 163
<i>Panisoides setipes</i>	I	26	52	29	52	78	143
	II	23	46	29	46	78	130
	III	31	49	29	47	91	140
<i>Hydryphantes ruber</i>	I	20	24	20	32	45	86
	II	18	18	14	19	40	71
	III	18	20	14	22	44	68
<i>Hydryphantes hellichites</i>	I	14	17	14	21	29	52
	II	13	15	11	14	26	43
	III	14	15	12	15	27	43
<i>Hydryphantes nonundulatus</i>	I	14	17	17	21	34	57
	II	14	16	13	15	30	49
	III	15	13	16	17	33	50
<i>Hydryphantes bayeri</i>	I	14	15	14	19	28	53
	II	13	11	8	13	24	41
	III	14	13	11	16	27	40
<i>Hydryphantes crassipalpis</i>	I	13	15	13	18	25	45
	II	13	13	10	13	22	38
	III	14	14	11	15	25	39
<i>Hydryphantes abnormis</i>	I	14	14	12	19	29	44
	II	13	14	10	13	26	38
	III	13	13	10	16	27	37
<i>Hydryphantes planus</i>	I	14	14	15	18	29	53
	II	13	13	12	14	25	40
	III	14	14	13	15	27	41
<i>Hydryphantes peroviensis</i>	I	16	17	13	17	30	44
	II	13	13	10	13	25	40
	III	14	14	11	15	26	38
<i>Hydryphantes frici</i>	I	14	19	14	23	23	55
	II	13	16	11	15	25	47
	III	13	16	11	17	28	47
<i>Hydryphantes thoni</i>	I	15	18	15	22	31	53
	II	14	15	10	15	27	48
	III	15	15	11	17	29	48
<i>Hydrodroma despiciens</i>	I	20	38	19	54	71	119
	II	23	37	20	49	60	118
	III	23	36	18	48	69	122

Material: 1 ♂ collected in the lake Krzywe on June 2nd 1982, eggs laid on June 8th, larvae hatched on June 26th; 15 ♀♀ collected on July 13th 1982 in a reservoir at WOSTiW in Olsztyn, eggs laid from July 17th to 21st, larvae hatched from July 26th to August 1st. Incubation period 8–12 days.

#### Diversification of idiosoma structure in larvae of *Hydryphantoidea*

The idiosoma in larvae of the studied group is of a distinctly more uniform structure than that in adult stages. On the dorsal surface of the larval idiosoma (Fig. 128) of all the species there are large, distinct eyes. The dorsal plate is only exceptionally absent (*Protzia* PIERS.). In species of the genus *Hydryphantes* KOCH it is triangular in outline, or pear-shaped. In the remaining species the dorsal plate has a tetragonal outline and sometimes shows a tendency to divide in two parts: anterior and posterior. In the genus *Hydryphantes* KOCH the dorsal plate is thus divided. On the dorsal surface of idiosoma there are, besides, 10–12 pairs of setae, in many species set on round platelets.

On the ventral surface of the body of larvae of *Hydryphantoidea* (Fig. 129) epimeral and anal fields can be distinguished. The epimeral field comprises 3 pairs of epimeres with 2–4 pairs of setae. The anal plate is only exceptionally absent (*Hydryphantes thoni*, *Hydrodroma despicens*). In the remaining species studied its outline is roughly triangular or tetragonal. On the anal plate 2–3 pairs of fine setae are set. Besides, in the anal region there are 4–7 pairs of setae.



Figs 128, 129. Schemes of idiosoma of the *Hydryphantoidea* larvae: 128 – dorsal surface, 129 – ventral surface (a broken line denotes plates and setae occurring only in particular genera).

#### Morphometric characteristics

Morphometric studies were based on the method used by BIESIADKA (1975) and BIESIADKA and CICHOCKA (1984), using mean values of measurements of 10–20 larvae of particular species (exceptions: *Panisoides setipes* – 1 larva and *Thyas*

*bruzelli* – 2 larvae). The total length of idiosoma and the length of particular leg segments were measured. The measurements are summarized in diagrams (Figs 130, 131), and the length ratio of idiosoma and legs is presented as an index resulting from dividing idiosoma length by the mean length of leg.

The larvae of *Hydryphantoidea* can be divided in two groups: large, idiosoma length 250–350  $\mu\text{m}$ , with legs long, longer than the idiosoma, and small, idiosoma length 120–210  $\mu\text{m}$  and legs shorter than the idiosoma. The first group comprises the genera: *Euthyas* PIERS., *Thyas* KOCH, *Thyasides* LUNDBL., *Panisoides* LUNDBL., *Hydrodroma* KOCH, and *Protzia* PIERS., the second – *Hydryphantes* KOCH. Among species of the genus *Hydryphantes* KOCH, *H. ruber* is exceptional in having its body c. 100  $\mu\text{m}$  longer than the other species, and the I pair of legs longer than the idiosoma. Thus *H. ruber* represents a transition between the I and the II group of larvae. There is apparently no functional (ecological) justification for the diversification of larvae into morphometric types. The hydryphantoid larvae live in the humid border zone between water and land. In streams they occupy hygropetric

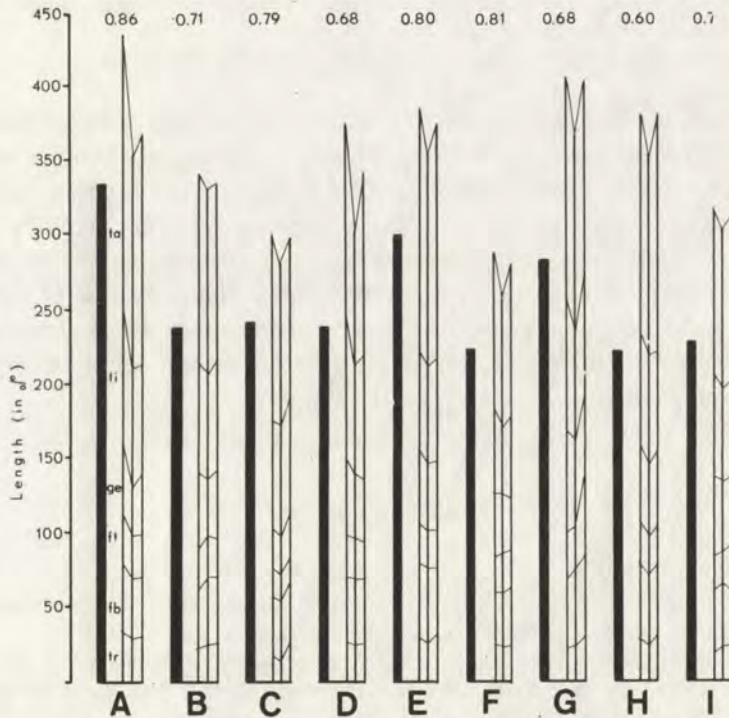


Fig. 130. Comparison of larval idiosoma and leg dimensions in some species of water mites: A – *Euthyas truncata* (NEUM.), B – *Thyasides dentatus* (THOR.), C – *Thyas barbiger* VIETS., D – *Thyas dirempta* KOEN., E – *Thyas pachystoma* KOEN., F – *Thyas rivalis* KOEN., G – *Thyas bruzelii* LUNDBL., H – *Panisoides setipes* (VIETS.), I – *Hydrodroma despiciens* (MÜLL.) (tr – trochanter, fb – basifemur, ft – telofemur, ge – genu, ti – tibia, ta – tarsus; the numbers denote the length ratio of idiosoma and legs).

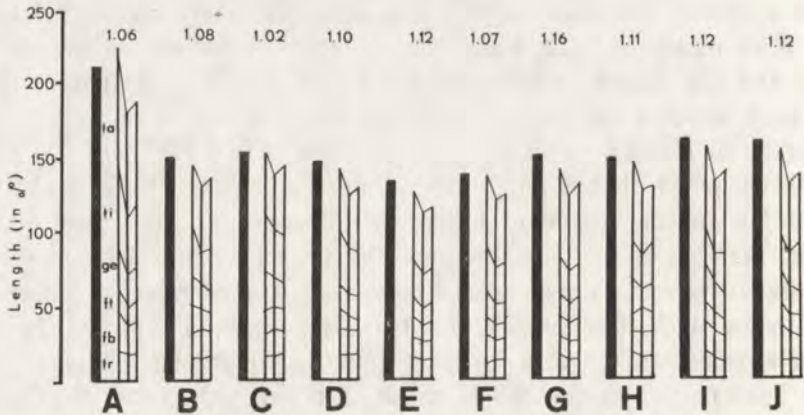


Fig. 131. Comparison of larval idiosoma and leg dimensions in some species of water mites: A – *Hydrophantes ruber* (GEER), B – *Hydryphantes hellichi* THON, C – *Hydryphantes nonundulatus* VIETS, D – *Hydryphantes bayeri* PISAŘOVIC, E – *Hydryphantes crassipalpis* KOEN, F – *Hydryphantes abnormis* KOEN, G – *Hydryphantes planus* THON, H – *Hydryphantes peroviensis* UDALZOV, I – *Hydryphantes frici* THON, J – *Hydryphantes thoni* (PIERS.) (for other explanations see Fig. 130).

habitats, in stagnant waters they live in coastal zone, on plants or surface film. The larvae of *Hydryphantoidea* are not swimmers, in contrast to other water mite larvae. Legs of I pair in all the hydryphantoid larvae are the longest, legs of II pair the shortest, while those of III pair are somewhat shorter than the I pair or slightly longer than the II pair, depending on a species. Tarsus is the longest segment, in larvae of the I group it is more elongate than in those of the II group. Besides, in larvae of the I group the basifemur is often twice longer than the telofemur, whereas in larvae of the II group it is either equal or only slightly longer than the telofemur.

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## STRESZCZENIE

[Tytuł: Badania nad morfologią stadiów larwalnych wodopójek (*Hydracarina*). 2. Gatunki z nadrodziny *Hydryphantoidea*]

Praca zawiera szczegółowe opisy i rysunki larw 19 gatunków z nadrodziny *Hydryphantoidea*. Larwy 11 gatunków opisane są po raz pierwszy. Materiał stanowiący podstawę tego opracowania, z wyjątkiem *Panisoides setipes* (VIETS), pochodzi z hodowli laboratoryjnych prowadzonych w latach 1980-1984.

Budowa larw *Hydryphantoidea* jest bardziej jednorodna niż deutonimf i imagines. Przedstawiono ogólny schemat budowy idiosomy larw tej grupy. Na podstawie charakterystyk morfometrycznych wyróżniono dwie grupy larw: larwy duże, z odnóżami długimi, dłuższymi od idiosomy (rodzaje: *Euthyas* PIERS., *Thyas* KOCH, *Protzia* PIERSIG, *Thyasides* LDBL., *Panisoides* LDBL., *Hydrodroma* KOCH) i larwy małe, z odnóżami krótkimi, krótszymi od idiosomy (rodzaj *Hydryphantus* KOCH).

## РЕЗЮМЕ

[Заглавие: Исследования по морфологии личиночной стадии водяных клещей (*Hydracarina*). 2. Виды из надсемейства *Hydryphantoidea*]

В работе содержатся подробные описания и рисунки личинок 19 видов из надсемейства *Hydryphantoidea*. Личинки 11 видов описаны здесь впервые.

Материал для этой разработки, за исключением *Panisoides setipes* (VIETS), происходит из лабораторных разведений, которые велись в 1980–1984 годах.

Строение личинок *Hydryphantoidea* является более однородным, чем строение дейтонимф и взрослых особей. Представлено общую схему строения идиосомы личинок этой группы. Исходя из морфометрических характеристик выделено две группы личинок: личинки большие, с долгими, длиннее идиосомы, конечностями (роды: *Euthyas* PIERS., *Thyas* KOCH, *Protzia* PIERSIG, *Thyasides* LDBL., *Panisoides* LDBL., *Hydrodroma* KOCH) и личинки маленькие, с короткими, короче идиосомы, конечностями (род *Hydryphantes* KOCH).

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