

PRELIMINARY REPORT ON THE ARACHNOIDEA-FAUNA OF THE TISZA-VALLEY

(Aspect of the spring)

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1.

Authors' intention was a systematic investigation of the biotops of the *TISZA*-valley, the results of which will show the fauna of each biotops and will demonstrate the local-coenoses developing as the result of the micro-climate.

The areas investigated are situated in the southern part of *HUNGARY* (county *CSONGRÁD* and *BÁCS-KISKUN*). Each area is designated with the name of the settlement nearby, but the investigated area includes only the inundation area inside the embankments.

Authors' investigations in spring-time were performed on places remoted each other with the aim of becoming acquainted with all types of biotops.

The places investigated were the followings:

I. SZEGED, 170—173 river-km, on the right riverside.

The inundation area is here small, 150—300 m broad. It is afforested with willows. In the spring the undergrowth is still undeveloped, the bulk of the animals was collected in the fallen leaves. Under the barks of old willows occur in this time much animals which are not arbicoles and only hide themselves for chedding or a cold wave force them to seek refuge under the bark. Much of the animals were found next to the water. This does not mean necessarily their hydrophilic character. The flooded river may crowd the animals of different biotops into occasional coenoses. After withdrawal of the flood the animals return to their original biotops.

II. TAPÉ, 176—180 river-km, on the right riverside

This area is roughly similar to the former one. As a difference the poplar (*Populus alba*) groves may be mentioned. Many pits and the forest result a humid and cool microclimate. The *Arachnoidea*-fauna is poor, only on highly insolated places live more animals.

III. ALGYÓ, 190—192 river-km, on the right riverside

On this area *Quercus robur* afforestations occur in addition to the willows. Dominant species of the bushy level is *Amorpha fruticosa* on which *Tetragnatha extensa* and nets of *Areneus* species are found in great number.

IV. KÖRTVÉLYES, on the left riverside

On this area no systematic investigations were performed.

V. TÓSERDŐ — ALPÁR — LAKITELEK, on the right riverside

One of the most heterogenous area of the TISZA-valley. Besides the backwater with its humid surroundings the most arid sand hills occur. According to this the coenoses observed are also heterogenous. In the spring a greater part of the forest was covered with water and made impossible the systematic collections.

VI. TÓSZEG — TISZAVÁRKONY, on the right riverside

On this area the most characteristic place is the "KUCORGÓ", a place which was artificially embanked before centuries against high-water. Higher floods reach of this place and produce a fauna characteristic to the inundation area. In the time of authors' investigations the flood was in withdrawal. On the desiccating although still muddy place as first settler *Allohogna singoriensis* and *Pardosa amentata* appear.

2.

For obtaining quantitative results the method of DUDICH—BALOGH—LOKSA (9) was applied completed with collection "one by one". This latter procedure is not always suitable for quantitative analysis, although BALOGH succeeded with this method to obtain quantitative results (5, 4).

The animals were fixed in ethanol (first of 40% and then 96%). For storage to the alcohol a few glycerol was added according to A. LENDL. This results a permanent flexibility of the animals and makes them suitable for investigation.

3.

Araneae

I. Inundation area of SZEGED:

Lycosidae:

- | | |
|------------------------|--|
| gen: <i>Pardosa</i> | C. L. KOCH 1848
<i>amentata</i> (CLERCK 1757)
<i>pullata</i> (CLERCK 1757) |
| gen: <i>Piratula</i> | ROEVER 1954
<i>knorri</i> (SCOPOLI 1763) |
| gen: <i>Trochosina</i> | (SIMON 1885)
<i>terricola</i> (THORELL 1856) |

The species of the family *Lycosidae* are characteristic members of the fauna in spring. The greatest quantity of them occurs along the water. Definite hydrophilic species are *Piratula knorri* and *Pardosa amentata*. They were found most frequently in the 40 cm wide zone immediately bordering the water. The D-value according to BALOGH (4) was 44. *Trochospina terricola* does not require humid areas. It was collected in arid biotopes too. It requires rather the bright sunshine. On sunny places it occurs everywhere from the crown of the embankment to the water-line.

Araneidae:

gen: *Araneus* CLERCK 1757

cf. cornutus (juv. et semiadultus) CLERCK 1757

The occurrence of some exemplares is quantitatively not to estimate. Their nets were found mainly on trees and bushes.

Tetragnathidae:

gen: *Pachygnatha* SUNDEVALL 1823

degeeri SUNDEVALL 1830

It occurs everywhere in the inundation area from the most humid areas to the embankment. It likes mostly the moderately arid places. Its nets were frequently observed in considerable number at the foot of trees and on greater and smaller shrubs; D = 2.

Linyphiidae:

gen: *Meioneta* HULL 1920

rurestris (C. L. KOCH 1836)

It is a characteristic form of the spring fauna. It occurs frequently on arid and humid places equally. The material collected by us is unsuited for quantitative analysis: it forms namely local-coenoses of greater or smaller extension along the river.

Drassodidae:

gen: *Gnaphosa* LATREILLE 1804

leporina (C. L. KOCH 1839)

This species follows hidden manner of life and therefore it was only rarely collected by us. It occurs in the grass and in the fallen leaves. As a mesophilic species, it does not go readily to the humid areas; it was found only during high water.

gen: *Zelotes* GISTEL 1848

praeficus (C. L. KOCH 1867)

Only a few exemplares were found, usually at the arid foot of the embankment.

Thomisidae:

- gen: *Tmarus* SIMON 1875
piger (WALCKENAER 1802)
 gen: *Xysticus* C. L. KOCH 1835

All of the exemplares were collected by one by one method. They occur very sporadically on plants.

Clubionidae:

- gen: *Clubiona* LATREILLE 1804
germanica THORELL 1870

The most common species of the valley of *TISZA*. At the beginning of the spring juvenile exemplares were found under barkes (where they of exemplares is variable. In humid biotops: $D = 12$; in arid ones: spend the winter) and also in other humid and arid biotops. The number of exemplares is variable. In humid biotops: $D = 12$; in arid ones: $D = 6-8$.

Salticidae:

- gen: *Salticus* LATREILLE 1804
cingulatus (PANZER 1797)

A few exemplares were collected in arid, sunny places.

The species enumerated above were collected partly with the one by one method, partly by automatic selection of dry fallen leaves. In the case of the automatic selection always 10 parallel samples (25×25 cm) were investigated. It is well known that spiders have a rather bad dispersion. In spite of this our samples collected on homogenous areas show no differences worth of mentioning. The number of individuals observed on this area was 190/m², which is a rather high value in the case of spiders. In contrast to this the number of species is very low. The reason for this is the selective activity of the valley of *TISZA*, e.g. *Dictyna civica* occurs outside the valley everywhere on the warm and sunny walls. But on the brick-walls of the embankment of the *TISZA* it was never collected albeit the houses on which it occurs in great number were only about 50 m remoted. The higher humidity and the cooler micro-climate select this species. Species, which tolerate the climate of the valley of *TISZA*, are concentrated, and are found in much greater quantity in the valley than outside of it.

II. Inundation area of *TAPÉ**Lycosidae:*

- gen: *Pardosa* C. L. KOCH 1848
amentata (CLERCK 1757)

On this reach of the river there are much pits, and shaded areas covered with water. Under these circumstances the number of *P. amentata* individuals falls; $D = 8$. At the same time lacks *Piratula*, which likes flat runways.

Dictynidae:

gen: *Dictyna* SUNDEVALL 1833
arundinacea (LINNÉ 1758)
vicina SIMON 1873

Both species are typically planticoles. They are mesophilic species living mainly at the fringe of the forests; $D = 15$. This value however may be doubled too.

Therididae:

gen: *Theridion* WALCKENAER 1802
pulchellum WALCKENAER 1802

A few exemplares were found by automatic selection. It is not a frequent species of this reach

Araneidae:

gen: *Araneus* CLERCK 1757
cornutus CLERCK 1757
diadematus CLERCK 1757
quadratus CLERCK 1757

These species occur only with few exemplares. On places where only willows are growing, they are negligible. In lower density they occur on areas overgrown with *Populus* and *Amorpha fruticosa*. Characteristic is, however, the $D = 1-2$.

gen: *Singa* C. L. KOCH 1836
hamata (CLERCK 1757)

This species is frequent on all humide places. Its density reach frequently the value $D = 25$. In extreme cases $D = 40$; but these are only local-coenoses.

Thomisidae:

gen: *Misumena* LATREILLE 1804
vatia (CLERCK 1757)
gen: *Xysticus* C. L. KOCH 1835
luctator C. L. KOCH 1870

They are planticol species. They are found mostly on flowers. They occur only on arid, highly insolated areas.

Clubionidae:

gen: *Clubiona* LATREILLE 1804
germanica THORELL 1870

It is frequent.

Salticidae:

gen: *Heliophanus* C. L. KOCH 1837
auratus C. L. KOCH 1848

Only a few exemplares were found.

The number of species is smaller than on the former area. The cause of this is in first line not the homogeneity of the vegetation, but the fowls of the near settlement which are pastured on this area. The fowls kill much of the members of the terricole and planticole fauna too.

On this reach there are also few poplars therefore the arbicole fauna is insignificant too.

III. Inundation area of ALGYÓ

Pisauridae:

gen: *Pisaura* SIMON 1885
mirabilis (CLERCK 1757)

It is a mesophilic species, it occurs mostly between the embankment and the forest belt. A few exemplares are found in the forest too, as for as the sunshine enters. In the forests with closed foliage along the *TISZA* it does not occur. On the border of forests and on the hayfields $D = 23$.

Lycosidae:

gen: *Pardosa* C. L. KOCH 1848
agricola (THORELL 1856)
amentata (CLERCK 1757)
pullata (CLERCK 1757)

These species occurred in great quantity at springtime. Next to the water lives *P. amentata* in great quantity; $D = 45$. In the forests it was found only if there were the pits not far off. On these places however the number of individuals is much smaller; $D = 12$. In the forests which are immediately neighbouring with the *TISZA* occurs *P. agricola* too in little number. *P. pullata* lives in greater number only on drier areas on hayfields, but only on places where grass is not high and does not inhibit its hunting.

gen: *Pirata* SUNDEVALL 1833
piraticus (CLERCK 1757)

It is everywhere frequent on flat riversides where the flow of water is not fast. It runs on the water surface too; not only for taking prey but also for making escape.

Dictynidae:

gen: *Dictyna* SUNDEVALL 1833
uncinata THORELL 1856

On this reach it was several times observed by us its net, especially on the inflorescence of *Umbelliferae* and of *Cruciferae*. The nets are hardly perceptible; mostly the older ones are observed which became already dusty. It occurs both the fringe and in the inside of forests.

Araneidae:

- gen: *Araneus* CLERCK 1757
bituberculatus (WALCKENAER 1802)
cornutus CLERCK 1757

On the fringe and in the inside of forests *A. cornutus* is one of the dominant species. With *Tetragnatha extensa* it forms a facies, both are the dominant species of the bushy level.

- gen: *Singa* C. L. KOCH 1836
hamata (CLERCK 1757)

It is not a frequent species on this area. It was found under barks and on little bushes. It requires humidity, it lives in greater number along the pits in the shrubberies of the river-side.

Tetragnathidae:

- gen: *Pachygnatha* SUNDEVALL 1823
clercki SUNDEVALL 1823
degeeri SUNDEVALL 1830
listeri SUNDEVALL 1830

All three species are planticol. Their small-sized nets are spined on the ramifications of cruciferous plants. They live also on *Amorpha fruticosa*, here were found frequently several nets together. *P. clercki* occurs always on humid places while *P. degeeri* is more mesophilic occurring frequently on entirely arid biotops too.

- gen: *Tetragnatha* LATREILLE 1804
extensa (LINNÉ 1758)

On bushy places everywhere occurs from the fringes to the inside of the forests. It is the dominant species of the forest together with *A. cornutus*. It spins its net most frequently between the twigs of *Amorpha*. D = 6—8 (Observed in vertical squares).

Micryphantidae:

- gen: *Erigonidium* SCHMITH 1904
graminicola (SUNDEVALL 1829)

It is the inhabitant of fallen leaves, its nets are spined immediately above the soil. It is a mesophilic species, it occurs frequently next to the water. D = 1—2.

Linyphiidae:

- gen: *Floronia* SIMON 1887
bucculenta (CLERCK 1757)

The gracile species forms mostly smaller local-coenoses. It is hygrophilic, on arid places it does not occur at all.

gen: *Lepthyphantes* MENGE 1866
keyserlingi (AUSSERER 1867)

This is a very rare species. It was collected on an area with a cool micro-climate.

gen: *Linyphia* LATREILLE 1804
clathrata SUNDEVALL 1830
montana (CLERCK 1757)
furtiva (CAMBRIDGE 1894)

From the three species only *L. montana* occurs in greater number, the other two species occur only sporadically. *L. montana* is the most frequent in the willow-plantations while *L. clathrata* and *L. furtiva* prefer the higher oak-forests. Their occurrence, however, is also here sporadically.

Drassodidae:

gen: *Zelotes* GISTEL 1848
praeficus (C. L. KOCH 1867)

On this area it is very rare. It occurs mostly on the foot of the embankments beside plant debris. It is rather rare in the whole TISZA-valley.

Thomisidae:

gen: *Ozyptila* SIMON 1864
praticola (C. L. KOCH 1837)

It is an inhabitant of forests, but it occurs on isolated trees too. It lives most frequently on places with southern exposition.

gen: *Pistius* SIMON 1875
truncatus (Pallas 1772)

It is a mesophilic species. In the TISZA-valley it is rather rare. It was found mostly on haylands. Living between the high grasses only few exemplares were collected.

gen: *Xysticus* C. L. KOCH 1835
cristatus (CLERCK 1757)

The most common species of *Thomisidae*, which occurs both in the forests and on smaller groups of trees along the riverside. The dispersity of the individuals is very poor. Therefore no D-value may be given.

Clubionidae:

gen: *Clubiona* LATREILLE 1804
germanica THORELL 1870

It is a frequent species occurring everywhere on trees under barks, between plant debris. It has a mesophilic character with a broad tolerance.

Salticidae:

gen: *Salticus* LATREILLE 1804
cingulatus (PANZER 1797)

It occurs on haylands with few grasses — but only rarely.

V. Inundation area of TÓSERDŐ — LAKITELEK — ALPÁR

In the case of this inhomogenous area for the closer characterisation of the occurrences the following abbreviations are used:

HE = clearings and fringes of forest with sandy soil
 ROB = forests from *Robinia* and *Corylus* with sandy soil
 HM = plain fields with sandy soil and with high insolation
 LR = marsh and humid meadows

Pisauridae:

gen: *Pisaura* SIMON 1885
mirabilis (CLERCK 1757)

Occurrence: HE in very great number; D = 40, ROB. D = 9. On the sandy borders of the forests of arid places it is a dominant species. On more humid biotops it is substituted by *P. amentata*.

Lycosidae:

gen: *Allochogna* SIMON 1885
singoriensis (LAXMANN 1769)

In contrast to other scientists authors consider this species not as a xerophil, but as a heliophil one. Verification of this statement will be given later in the course of the review of the material collected in TÓ-SZEG. Occurrence: HE; HD. The D-value is small on both areas; D = 1 or (1. The pinnacleform wells described by KOLOSVÁRY were here observed. This protects the animal against blowing over. The wells are always oriented southwards or southeastwards. The form of the wells on the slants of hills may be altered; they are frequently horizontal instead of having vertical direction. Although the area remain arid during the summer *A. singoriensis* moves off because the growing vegetation which inhibits its hunting.

gen: *Pardosa* C. L. KOCH 1848
amentata (CLERCK 1757)
lugubris (WALCKENAER 1802)
proxima C. L. KOCH 1848

They are the most characteristic species of the spring in the TISZA-valley. They occur everywhere but the number of individuals may be different according to humidity. On humid places the dominant species is *P. amentata*; D = 35. On arider biotops *P. lugubris* dominates. On the most arid places (HE) *P. proxima* occurs; D = 10.

gen: *Trochosina* SIMON 1885
terricola (THORELL 1856)

From the open fields to the thick of the forests it occurs everywhere:
D = 10, dispersity is good.

Araneidae:

gen: *Araneus* CLERCK 1757
cornutus CLERCK 1757

Juvenile exemplares were several times collected in ROB and HE;
D = 2—3.

gen: *Singa* C. L. KOCH 1836
hamata (CLERCK 1757)
sanguinea C. L. KOCH 1845

On this reach of the TISZA-valley, both species are rather frequent.
S. hamata occurs everywhere except the most arid places. *S. sanguinea*
occurs in LR.

Tetragnathidae:

gen: *Pachygnatha* SUNDEVALL 1823
degeeri SUNDEVALL 1830
Occurrence: HE, HM, ROB. Frequent.

Thomisidae:

gen: *Xysticus* C. L. KOCH 1835
kochi THORELL 1872

Occurrence: HD. It likes arid, highly insolated places where all the exem-
plares were collected. It is a rare species.

Clubionidae:

gen: *Cheiracanthium* C. L. KOCH 1839
elegans THORELL 1875

It is definitely hydrophilic species. The little nets were found always
on the most humid places. Occurrence: LR. This species is rather rare in
the TISZA-valley; on marsh-fields it is frequent.

Salticidae:

gen: *Ballus* C. L. KOCH 1850
chalybeius (WALCKENAER 1802)

Occurrence: HE, HD. It is a xerophil species, it lives on sandy fields with
high insolation and with few or none vegetation.

gen: *Marpissa* C. L. KOCH 1846
muscosa (CLERCK 1757)

It occurs everywhere in greater or smaller number.

VI. Inundation area of TÓSZEG — TISZAVÁRKONY

Lycosidae:

gen: *Allohogna* SIMON 1885
singoriensis (LAXMANN 1769)

As mentioned above these animals prefer in first line not the arid places but the high insolation. Authors several times observed that the animals prepared their wells in the mud immediately after the withdrawal of the flood. But in the summer on the same places, *A. singoriensis* disappears. In authors' opinion the cause of this is the fast growing of vegetation. The places covered with abundant vegetation are unadapted for hunting and therefore the animals emigrate. Emigration was also observed on arid sandy places (*TÓSERDÓ*).

gen: *Megarctosa* CAPORIACCO 1948
leopardus (SUNDEVALL 1832)

It prefers the most humid biotops, it occurs next to the water in greater quantity.

gen: *Pardosa* C. L. KOCH 1848
pullata (CLERCK 1757)

A few exemplares were collected. It occurs in the humid and in the arid biotops equally. It is frequent along the river *TISZA*.

gen: *Piratula* ROEVER 1954
knorri (SCOPOLI 1763)

It is the inhabitant of the most humid biotops as *Megarctosa leopardus*. It is rarer than the former species.

Tetragnathidae:

gen: *Pachygnatha* SUNDEVALL 1823
degeeri SUNDEVALL 1830

It is frequent everywhere in the *TISZA*-valley.

Micryphantidae:

gen: *Erigonidium* SCHMITH 1904
graminicola (SUNDEVALL 1829)

On humid places it occurs everywhere in smaller or greater number.

Linyphiidae:

gen: *Lepthyphantes* MENGE 1866
tenuis (BLACKWALL 1852)

It occurs only in small number.

Thomisidae:

gen: *Ozyptila* SIMON 1864
praticola (C. L. KOCH 1837)

Adult and semiadult exemplares were several times collected from stems. It is a frequent species on this area but its dispersion is very bad. Therefore authors cannot give a D-value.

4.

According to authors' results the disturbed biochore of the *TISZA*-valley often packs together species with different ecological demands. These species after the withdrawal of the flood return to their original biotop. The species with a wide ecological tolerance may continue their life in other biotops too.

The animals are situated in zones on the two riversides according to the humidity. Senior author of this paper already investigated the zonation of the *TISZA*-valley (11). His earlier statements are acceptable in the case of the *Arachnoidea*-fauna too.

In the *TISZA*-valley from the point of view of the spiders the following ecological groups were observed:

A) *Hydrobionts*

They swim well or run on the surface of the water. In arider places they do not subsist. To this group belong *Pirata piraticus* and *Piratula knorri*.

B) *Hydrophils*

They live next to the water. Characteristic members of this group are: *Pardosa amentata*, *lugubris*, *pullata*, *Cheiracanthium elegans*.

C) *Hydrograds*

This group includes species with great ecological tolerance. They occur on the humid hayfields of the inundation area, in the forests and frequently on the arider places of the embankments. In this group are ranged the following species: *Pisaura mirabilis*, *Allohogna singoriensis*, *Trochosina terricola*, *Araneus cornutus*, *Singa hamata*, *Linyphia montana*, *Pistiis truncatus*, *Clubiona germanica*.

D) *Xerophils*

There are only few xerotherm biotops in the *TISZA*-valley. Arid, sandy areas are found in the *TÓSERDŐ*. The xerophil species collected originate

Key to the signs used:

+++++ = dominant
 ++++ =
 +++ = subdominant
 ++ = rare
 + = collected only one, or two exemplares.

Table.

Name	Hydrophiles	Mesophiles	Xerophiles
Allohogna singoriensis	++	++	++
Araneus bituberculatus		++	
Araneus cornutus	+	++++	
Araneus diadematus		+++	
Araneus quadratus		+	
Ballus chalybeius			++++
Cheiracathium elegans	+++		
Clubiona germanica	++++	++++	
Dictyna arundinacea		++	
Dictyna uncinata		+	
Dictyna vicina		+	
Erigonidium graminicola	+++	+	
Floronia bucculenta		++++	
Gnaphosa leporina		++	+
Heliophanus auratus			+
Lepthyphantes tenuis	++		
Lepthyphantes keyserlingi		+++	
Linyphia clathrata		++	
Linyphia furtiva		+	
Linyphia montana		++++	
Marpissa muscosa		+	++
Megarctosa leopardus	++		
Meloneta rurestris	++++	+	
Misumena vatia		++	
Ozyptila praticola		++++	
Pachygnatha clercki		+++	
Pachygnatha degeeri	++++	++++	+
Pachygnatha listeri		++	
Pardosa agricola	++	+++	
Pardosa amentata	++++	+++	
Pardosa lugubris	+++	++++	
Pardosa pullata	+++	+++	+
Pardosa proxima	++	++	
Pirata piraticus	+++		
Pirata knorri	+++		
Pisaura mirabilis	++	++++	
Pistius truncatus		++	+
Salticus cingulatus	+	+	++
Singa hamata	++++	++++	
Singa sanguinea	++++		
Tetragnatha extensa	+++	++++	
Theridion pulchellum		++	
Tmarus piger		+++	
Trochosina terricola	++	++++	
Xysticus cristatus		++	
Xysticus kochi			++
Xysticus luctator		++	
Zelotes praeficus		++	+
Zelotes calceolatus			++

from here. Members of this group are: *Ballus chalybaeus*, *Salticus cingulatus*.

All the zones of the ecological groups mentioned above do not occur on every section of the river. Sometimes some of the zones may occur several times. The zones may be compressed as a result of the inundation. During autumn the zonation become also indistinct, because under the same bark or stone animals from different biotops may gather together for hibernation. The zonation demonstrated in this paper develops only by the end of the spring or by the beginning of the summer.

In the Table they are summarized the spiders collected during the spring. The biotops of the species and the frequency are also indicated.

The data of the Table allow the following conclusions:

1. 5 species, 12⁰/₀ of the species are hydrophils.
2. 40 species, 80⁰/₀ of the species are mesophils.
3. 4 species, 8⁰/₀ of the species are xerophils.

The hydrophils and xerophils show nearly the same number of species. The number of individuals is however very different: the hydrophils occur in great number while the xerophils only in a few one.

5.

Opiliones

Few *Opiliones* occur in the *TISZA*-valley. They form local-coenoses with much individuals, while elsewhere no one exemplares are found. Their dispersity is very bed; in addition they follow a hidden life. By the collection the method of DUDICH (8) was applied with a very good result. The species observed were the following:

Phalangidae:

gen: *Phalangium* LINNÉ 1758
cornutum LINNÉ 1758

The most frequent species in the *TISZA*-valley. Many adult individuals were collected in the *TÓSERDÓ*, it is here on the insolated fringe of forests as a dominant species. Here and there $D = 9$.

Juvenile and semiadult exemplares were collected from detritus at the fringe of the forest *TÓSERDÓ*; $D = 18$. In addition to *TÓSERDÓ* the species was collected also in *SZEGED* and *ALGYÓ* in greater number; $D = 7$.

gen: *Opilio* HERBST 1798
parietinus DE GEER

In the *TISZA*-valley it is frequent near the houses built on the inundation area. It occurs also on places where the anthropogenic effect is high (e.g. *SZEGED*, *TÁPÉ*, *ALGYÓ*), the number of individuals, however is in these areas low.

gen: *Platybunus* C. L. KOCH 1848
bucephalus C. L. KOCH 1848

For the HUNGARIAN PLAIN it is a new species. Authors collected 21. April, 1963. one exemplare from fallen leaves on the fringe of forest TÓSERDÓ.

6.

Summary

Authors investigated the *Arachnoidea* fauna of the TISZA-valley in the spring. As the first systematic search of spiders in the biotops of the TISZA-valley, the paper gives a qualitative and quantitative outline of the life of spiders in spring-time.

A horizontal zonation developing after withdrawal of flood was established. Results are listed according to the different areas and according to ecological characteristics.

The Table shows that 12^{0/0} of the species collected are hydrophils, 80^{0/0} mesophils and 8^{0/0} xerophils.

References

1. BERETZK, P. ... (1957) Das Leben der Tisza I. (Echte Spinnen, Weberknechte) Acta Biol. Szeged. 3.1—2:93—94
2. BONNET, P.: (1951) Difficultés de nomenclature chez les Araneides IV. La question Lycosa-Tarentula-Pardosa Bull. de la Soc. d'Hist. Nat. 86.3—4:295—307
3. BRAUN, R.: (1960) Neues zur Spinnenfauna des Rhein-Main-Gebietes und der Rheinpfalz. Jahrb. des Nassauischen Ver. für Naturkunde Bd. 95:28—89
4. BALOGH, J.: (1935) A Sashegy Pókfaunája Budapest, Sárkány-Press
5. BALOGH, J.: (1953) Grundzüge der Zoözoologie Akad. Verl. Budapest
6. BUCHAR, J.: (1959) Beitrag zur Bestimmung der Mitteleuropäischen Arten der Gattung Trochosa (C. L. Koch) (Araneae: Lycosidae) Acta Univ. Carol. — Biologica 3:159—164
7. CHYZER, C.—KULCZYNSKI, L.: (1897) Araneae Hungariae I.—II. Edit. Acad. Sci. Hung., Budapest.
8. DUDICH, E.: (1946) A skorpiók, álskorpiók, kaszaspókók és szálfarkúak gyűjtése és kezelése. Fragm. Faunistica Hung. 9.3—4:61—68
9. DUDICH, E.—BALOGH, J.—LOKSA, I.: (1952) Erdőtälajok ízeltlábúinak produktív-biológiai vizsgálata. MTA. Közleményei 3.3—4:505—532
10. DADAY, J.: (1899) Opiliones (in: Fauna Regni Hungariae) Budapest.
11. HAVRANEK, L.: (1961) Das Leben der Tisza XVI. Acta. Biol. Szeged 7.3—4:139—142
12. HERMAN, O.: (1879) Ungarns Spinnenfauna I—III. Kir. Magy. Term. Tud. Társ. Budapest.
13. KOLOSVÁRY, G.: (1926) A Dictyna civica Szegeden T. T. Közl. 59.842:245 nonbeckens I—II—III. Acta Litt. Ac. Sci. Szeged 3.:106—128; 11—20; 132—144
14. KOLOSVÁRY, G.: (1929) Die Weberknechte Ungarns Studium Verl. Budapest.
15. KOLOSVÁRY, G.: (1935) Die Spinnenbiosphaere der ungarländischen Panonbeckens I—II—III. Acta. Litt. oc Sci. Szeged 3.: 106—128; 11—20; 132—144.
16. KOLOSVÁRY, G.: (1944) Szeged és Kolosvár pókfaunájának egybevetése Debreceni szemle 5.1—3
17. KOLOSVÁRY, G. und Mitarbeiter: (1958) 7. Spinnentiere (in: Das Leben der Tisza VII) Acta Biol. Szeged. 4.3—4:215—216
18. ROEVER, F.: Opiliones (in: Brohmer—Ehrmann—Ulmer: Die Tierwelt Mitteleuropas Bd. III. 1. Lief.) Verl. von Quelle and Meyer in Leipzig
19. ROEVER, F.: Araneae (in: Die Tierwelt Mitt. Bd. III.) Verl. von Quelle and Meyer in Leipzig
20. WIEHLE, H.: (1953) Spinnentiere oder Arachnoidea IX. (in: Die Tierwelt Deutschlands)