

SPIDERS OF THE GREAT DISMAL SWAMP: LAKE DRUMMOND

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ABSTRACT: A collection of spiders was made at several sites in the Great Dismal Swamp which is located in the Suffolk Escarpment, an area in the southeastern part of Virginia and northeastern part of North Carolina. Our study only included the Virginia portion particularly along the margins of Lake Drummond. Specimens were taken over a seven month period from November 1976 to May 1977. During the winter months species of the family Lycosidae seemed to be dominant, whereas during the summer months the Araneidae were more abundant.

INTRODUCTION

A study of spiders has been conducted along the shores of Lake Drummond, in the Great Dismal Swamp. The purpose of the study was to get an indication of what species of spiders are found there.

Collections were made from November to the following May. Our results show that during the colder months there is a lesser abundance and variety of spiders due to their overwintering (Berry, 1971).

Nine stations were set up, seven along the shores of Lake Drummond and two in the interior of the swamp for comparison purposes. Specimens were taken at these sites with killing jars and preserved in 70% alcohol.

All specimens were identified according to How to Know the Spiders by B. J. Kaston.

During the seven month period, 160 spiders were collected. They contained 12 families and 40 different species.

METHOD

As a sampling technique we used etherized killing jars. These are glass containers (ht: 9 cm, diam: 7cm) with metal lids having vials containing ether-soaked cotton attached to the lid undersurfaces.

Of the nine stations, four were accessible by care and five could only be reached by boat. The different stations are shown in figure I and are described in the following:

Station I: Location - Lake Drummond, northern shore, within Nov, 1976
a 100 m parameter of Washington Ditch.

Habitat - Cold, dry, abundant leaf litter in forest area and open sandy area where lake receded.

Vegetation - Bald cypress (Taxodium distichum), sweet gum (Liquidambar styraciflua), muscadine (Vitis rotundifolia), red maple (Acer rubrum), sedge (Carex lurida), greenbrier (Smilex).

Station II: Location - Jericho Ditch at the National Wildlife Feb., 1977
Refuge gate, within a parameter of 60 m.

Habitat - Mild, dry, in forest area with abundant leaf litter.

Vegetation - Sweet gum (Liquidambar styraciflua), red maple (Acer rubrum), greenbrier (Smilex), oak (Quercus), yellow jasmine (Gesimium sempervirens).

Station III: Location - Lake Drummond, southwestern shore
Apr., 1977

on south side of Interior Canal, proximal
distance, 15 m.

Habitat - Wooded area, abundant litter, decaying
logs, thick canopy layer and understory.

Vegetation - Bald cypress (Taxodium distichum),
sweet gum (Liquidambar styraciflua), muscadine
(Vitis rotundifolia), greenbrier (Smilax),
red maple (Acer rubrum), woodferns (Dryopteris
spinulosa, D. separabilis), netted chain fern
(Woodwardia areolata).

Station IV: Location - Lake Drummond, eastern shore along
May, 1977 East Canal approximately 30 m inland.

Habitat - Hot, dry, open sunny area with
extensive population of herbaceous plants,
surrounded by forest.

Vegetation - Poison ivy (Rhus radicans), poison
sumac (Rhus vernix), cinnamon (Osmunda cinnamomea),
devil's walking stick (Aralia spinosa), toad
flax (Linaria canadensis), tulip tree (Liriodendron
tulipifera), chickweed (Stellaria media), sweet
bay (Magnolia virginiana), wild geranium
(Geranium carolinianum), wild cherry (Chaerophyllum
tainturieri).

- Station V:
May, 1977
- Location- Lake Drummond, northeastern shore,
between Jericho Ditch and East Canal, approximately
300 m west of East Canal.
- Habitat - Moist forest area with abundant
litter, thick canopy layer and thin understory.
- Vegetation - Bald cypress (Taxodium distichum).
sweet gum (Liquidambar styraciflua), oaks
(Quercus), greenbrier (Smilex), black cherry
(Prunus serotina), American holly (Ilex opaca).
- Station VI:
May, 1977
- Location - Railroad Canal, approximately 100 m
east of intersection of Railroad and West Canal.
- Habitat - Dry roadside area, overgrown with
herbaceous plants, surrounded by woods.
- Vegetation - Devil's walking stick (Aralia
spinosa), cinnamon fern (Osmunda cinnamomea),
indian strawberry (Duchesnea indica), strawberry
(Fragaria virginiana), pokeweed (Phytolacca
americana), virginia creeper (Parthenocissus
quinquefolia), needle grass (Stipa avenacea).
- Station VII
May, 1977
- Location- Lake Drummond, southeastern shore,
approximately 400 m south of the Feeder Ditch.
- Habitat - Wet, woody area with stagnant bodies
of water, thick canopy and understory with
heavy deposits of peat and much leaf litter.
- Vegetation - Bald cypress (Taxodium distichum),
greenbrier (Smilex), American holly (Ilex opaca),
netted chain fern (Woodwardia areolata), oak
(Quercus).

Station VIII: Location - Lake Drummond, southern shore,
May, 1977
approximately 1.5 km southeast of Interior
Canal.

Habitat - Wet, woody area with stagnant pools,
thick canopy, underwood and heavy peat
deposits.

Vegetation - Bald cypress (Taxodium distichum),
greenbrier (Smilex), American holly (Ilex
opaca), muscadine (Vitis rotundifolia),
oak (Quercus).

Station IX: Location - Lake Drummond, western shore, at
May, 1977
Short Ditch.

Habitat - Dry, open area surrounded by woods
next to a house, with a heavy layer of
dried peat.

Vegetation - Woodferns (Dryopteris spinulosa
D. intermedia, D. celsa), netted chain fern
(Woodwardia areolata), virginia creeper
(Pathenocissus quinquefolia), blue gross (Poa
pratensis), tulip tree (Liriodendron tulipifera),
bald cypress (Taxodium distichum), pawpaw
(Asimia triloba).

RESULTS

Over a seven month period, 160 spiders were collected in the Dismal Swamp at nine different stations. The 160 spiders covered twelve families and 40 different species. Table I indicates what species were found at the different stations.

Of the twelve families, the Araneidae were the most abundant, as indicated in table III. Our results also show that during the winter months the Lycosidae were more abundant than in the summer, whereas the Araneidae were more abundant over the warmer months of the year.

Table II indicates the number of species found per station and shows that greater numbers of spiders were found at stations I, V, VII, and VIII.

CONCLUSION

The Araneidae were the dominant spiders found in the Dismal Swamp. During the warmer months they were more abundant than during colder ones, because of their nature as orb-weavers, which mainly prey on flying insects, and which have a diminished population in the winter.

The second most abundant family was the Lycosidae which were, compared to the Araneidae, abundant throughout the year. Since they are cursorial and live in a more stable habitat than most other families, they are better adapted to survival in the colder months.

Members of the other families seemed to be less abundant in our research areas, which might be due to sampling techniques.

APPENDIX

Table I :

Station	Family	Species	Female	Male
1	Araneidae	Araneus marmoreus	2	
	Araneidae	Acanthepeira stellata	2	
	Linyphiidae	Bathyphantes pallida	2	
	Lycosidae	Lycosa avida	1	
	Lycosidae	Lycosa rabida		1
	Lycosidae	Lycosa sp.	7	1
	Lycosidae	Pardosa milvina	3	
	Lycosidae	Pardosa sp.	1	
	Tetragnathidae	Tetragnatha pallescens	1	
	Thenosomatidae	Theridiosoma gemmosa	1	
	Theridiidae	Ancylorrbanis hirsutum	1	

Table I cont.

Station	Family	Species	Female	Male
2	Araneidae	Acacesia hamata	1	
	Araneidae	Leucauge sp.	4	
	Araneidae	Mangora placida	1	
	Lycosidae	Lycosa sp.	7	
3	Araneidae	Eustala sp.	2	
	Araneidae	Leucauge venusta	4	1
	Araneidae	Leucauge sp.	1	
	Linyphiidae	Frontinella sp.	2	
	Linyphiidae	Pityohyphantes phrygianus	1	
	Lycosidae	Lycosa sp.		1
	Nesticidae	Eidmanella pallida	2	

Table I : cont.

Station	Family	Species	Female	Male
4	Araneidae	Leucauge venusta	1	1
	Araneidae	Meta sp.	4	
	Lycosidae	Pardosa sp.	1	
	Lycosidae	Schizocosa sp.	1	3
	Selenopidae	Selenops sp.	1	
	Tetragnathidae	Tetragnatha elongata	1	
5	Araneidae	Araneus sp.	1	
	Araneidae	Araniella displicata	17	
	Araneidae	Leicauge sp.	2	
	Araneidae	Mangora sp.	1	
	Lycosidae	Lycosa sp.	1	

Talbe I : cont.

Station	Family	Species	Female	Male
5	Nesticidae	Eidmanella pallida	1	
	Salticidae	Thiodina iniquies		1
	Salticidae	Plexippus sp.	1	
6	Araneidae	Leucauge venusta	2	1
	Araneidae	Acanthepeira stellata		1
	Lycosidae	Lycosa sp.	3	
	Lycosidae	Schizocosa crassipes	2+...about 30 juve.	1
	Salticidae	Zygoballus sp.		1
	Salticidae	Habranattus borealis		1

Table I : cont.

Station	Family	Species	Female	Male
7	Araneidae	Mangora sp.	12	
	Araneidae	Mecynogea sp.	2	
	Araneidae	Aranus diadematus	2	
	Araneidae	Micrathena sp.	1	
	Araneidae	Leucauge sp.	2	
	Cubionidae	Castianeira longipalus	1	
	Thomisidae	Misumeops sp.	1	
	Tetragnathidae	Tetragnatha elongata	1	

Table I : cont.

Station	Family	Species	Female	Male
8	Araneidae	Araniella displicata	2	
	Araneidae	Neosconella pegnia	2	
	Araneidae	Neosconella thaddeus	6	
	Araneidae	Metapeira labyrinthea	1	
	Araneidae	Mecynogea sp.	1	
	Araneidae	Mangora sp.	5	
	Araneidae	Zingo sp.	1	
	Araneidae	juvenile	3	
	Tetragnathidae	Pachygnatha sp.	1	
	Ulobridae	Hyptioles sp.	1	

Table I : cont.

Station	Family	Species	Female	Male
9	Araneidae	Neosconella sp.	1	
	Araneidae	Leucauge sp.	1	
	Araneidae	Araniells sp.	1	
	Araneidae	Mangora sp.	2	
	Nesticidae	Eidmanella pallida	3	1
	Lycosidae	Schizocosa crassipes		1
	Lycosidae	Lycosa sp.	1	
	Linyphiidae	Helophora sp.	1	
	Salicidae	Sassacus sp.	1	
	Tetragnathidae	Tetragnatha elongata	1	
	Thomisidae	Misumenops asperatus	1	

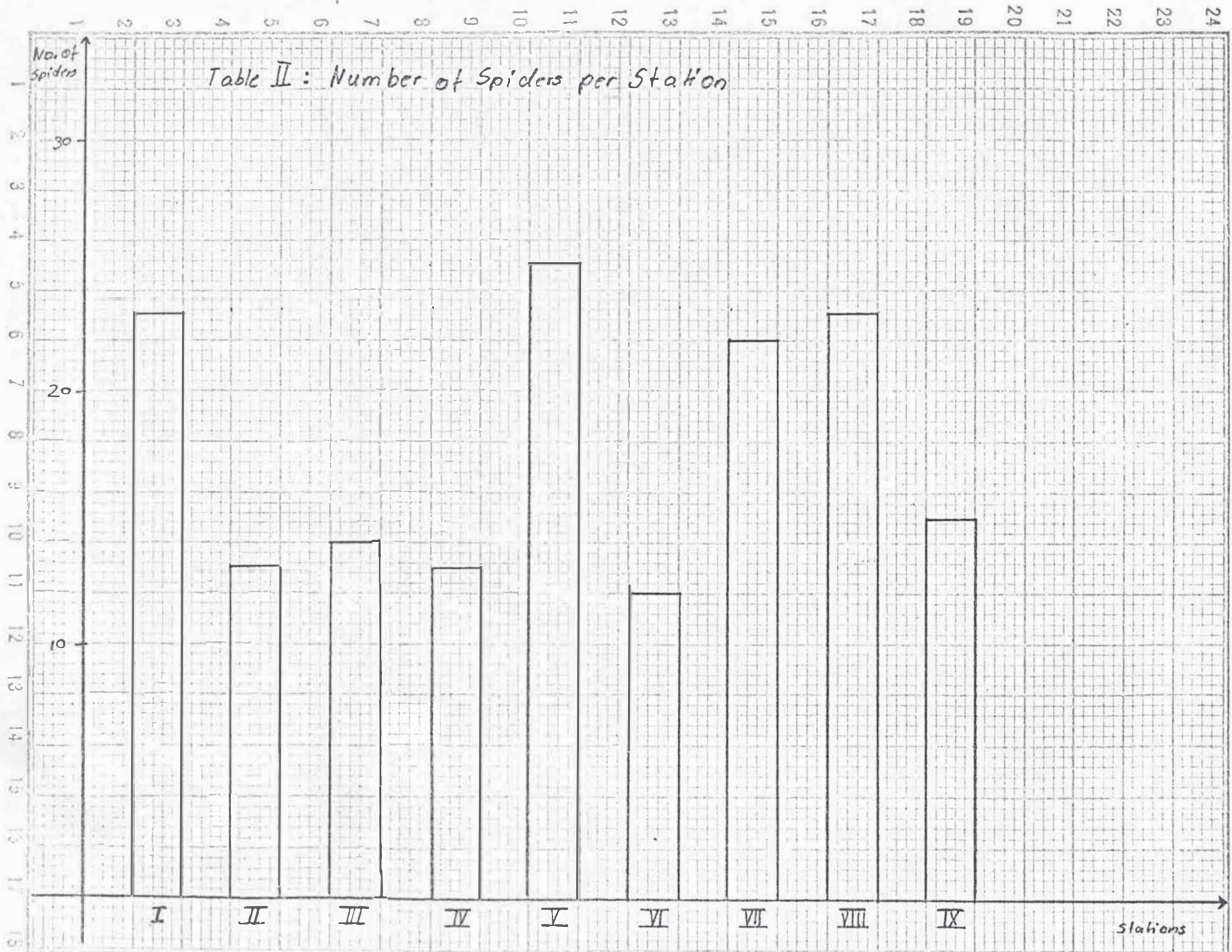
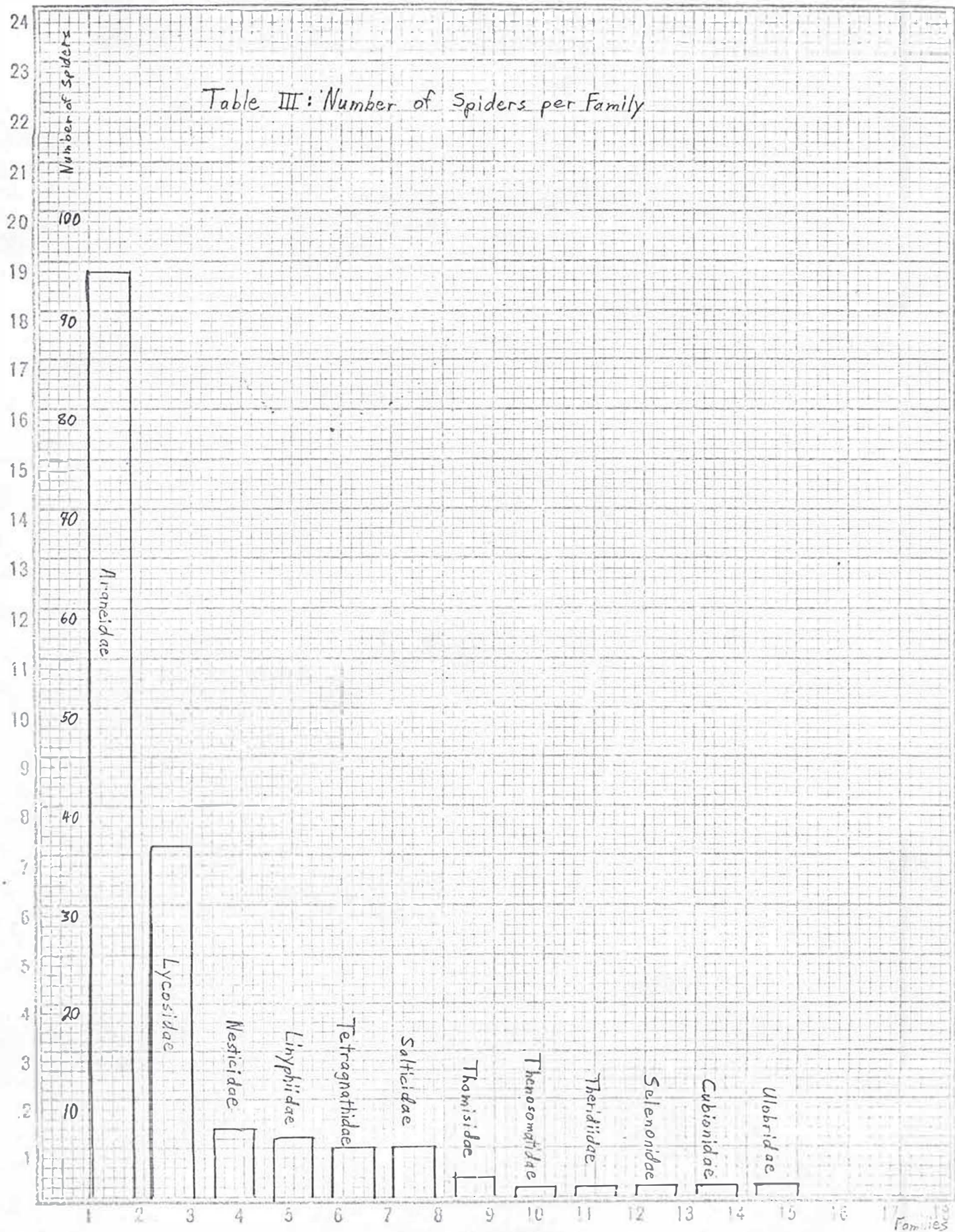
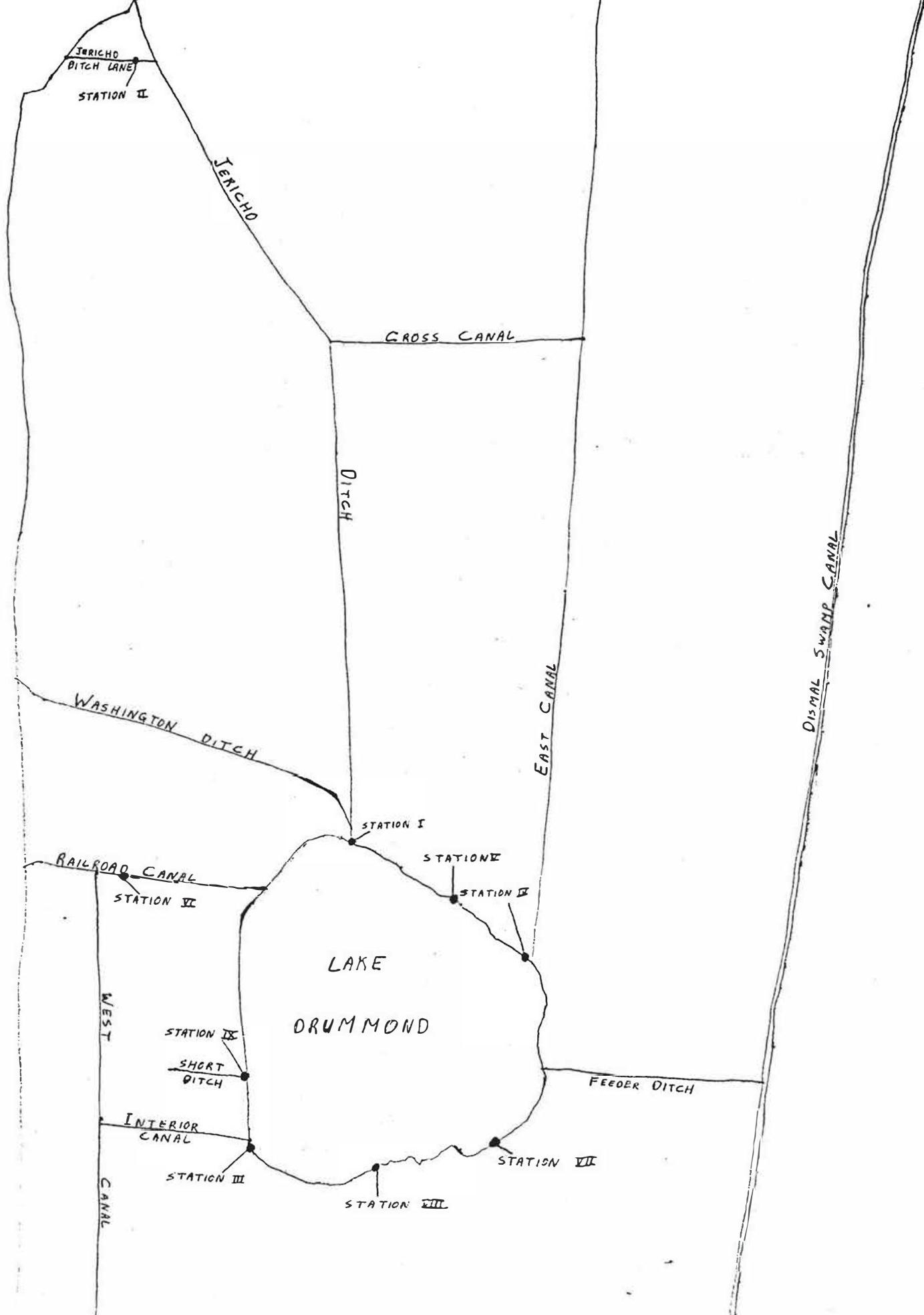


Table III: Number of Spiders per Family





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