INTRODUCTION

Ordinary web spinning is a complex of actions proceeding in a strictly determined order. The best investigated so far is the spinning process in *Aranea diademata*, which is therefore the classic example of orb-web weaving (PETERS, 1933, 1937, 1939; PETRUSEWICZOWA, 1938; TILQUIN, 1942). The same spinning actions appear in the Cribellatae as well as in the Ecribellatae. Although the orb-webs of various spiders differ in their specific structure, they are built according to the same plan and by the same technique.

The first web of the young orb-weavers has exactly the same fundamental structure as the later ones. In accordance with the size of the young spiders, the primary webs are small, as are the angles between the radii and the distances between the spiral rows. The primary webs are built by the same technique as the adults’ webs.

The only example of significant differences in structure and appearance between the primary and the later webs is found in the genus *Uloborus*. The primary-type web of *Uloborus* is a horizontal sheet, as is usual for the Uloboridae, which at first sight seems to consist only of a frame and numerous radii, built of a very fine silk.

WIEHLE (1927) gives the following description of the webs of young *Uloborus walckenaerius* and *U. geniculatus*: „Diese kleinen Netze von 1-2 cm Durchmesser bestehen nur aus einem viereckigen Rahmen und aus einer sehr grossen Zahl von Radien, die in der Nabe zusammenlaufen. Diese ist mit einem feinen Gewebe bedeckt und erscheint als ein heller Fleck. Vor den Radien sind einige stärker, dazwischen liegen feinere. Es kommt öfter vor, dass Speichen zusammenlaufen; sie sind so dicht gezogen, dass das ganze wie ein Decknetz wirkt. ... Das Erstlingnetz der Uloboriden hat also keine Fangspirale.”

1) I wish to express my thanks to Prof. G. KOLOSVARY, who assisted me in the identification of the spiders; I would also like to thank Dr A. SHULOV for his help.
Peters (1953) found the first web of *U. vicinus* to be similar to that described by Wiehle. „Ihre Netzchen sind so hauchdünn, dass man sie ohne Hilfsmittel schwer erkennt. Nach Beräucherung werden sie aber wie mit einem Schlage deutlich sichtbar und dann sieht man, dass es sich um feine Schleier handelt, die sich zwischen Rahmenfäden in einer mehr oder weniger horizontalen Ebene ausspannen. Die Besitzerin hängt an der Unterseite ihres Netzes in der Mitte. Von ihrem Sitzplatz strahlen zahlreiche radiäre Fäden aus, die von anderen unregelmässig gekreuzt werden. Unwillkürlich denkt man an Linyphiiden-Netze, wenn auch die Strahlenfäden die Verfertiger schon als Radnetzspinnen ausweisen... Die Erstlingnetze entbehren also die für Uloboriden charakteristischen Kräuselfäden.”

Considering the life-long constancy of the web spinning activities of all other orb-weavers, the case of *Uloborus* calls for further explanation. The literature provides descriptions of completed primary webs, but is lacking in descriptions of the process of their spinning.

**MATERIAL AND METHODS**

Spiders of *U. plumipes* Lucas and *U. walckenaerius* Latreille were found in the vicinity of Jerusalem. Cultures were made from eggs laid in the laboratory from April to July. Newly hatched spiders were put on square wire frames of side approximately 8 cm, and their spinning activities were observed.

Photographs were made with the concentrated light of Spencer microscope lamps and without employing the process of vapour coating the web. An Exakta Varex camera and a Kodak X-Pan film were used.

As the spiders spun mainly at night, the observations of their spinning activities were made by red light and with the help of a flashlight. These primary webs are of so fine a silk, as compared with others, that they are almost invisible, making the observation of the spinning process extraordinarily difficult.

**CONSTRUCTION OF THE PRIMARY-TYPE WEB OF**

**U. PLUMIPES**

**a. Start of spinning activity.**

The newly hatched spiders were already able to spin their webs on the first day after hatching. The dispersal method by the gossamer thread is very characteristic of the young spiders, the slightest current of air enabling them to escape from the frame. The first threads on the frame are not a certain sign that the web is about to be started. The threads may be replaced