The methods of catching prey adopted by spiders are extremely varied. The nets or snares are highly efficient for this purpose. Amongst the threads, which entangle the wings and legs of inter­cepted prey, the spiders are perfectly at home and can pounce on the struggling victim at once if it be small and harmless or keep at a respectful distance, checking all efforts at escape, if it be poisonous or strong. If in the latter case the spider be afraid to come to close quarters, various devices for securing it are resorted to. The *Theridiidae* eject on to the insect from their spinning mamillae drops of liquid adhesive silk; the *Argyopidae,* steadying it with the tips of their long front legs, sweep additional strands of silk over it with the legs of the hinder pair; the *Agalenidae,* attaching a long thread to a point hard by, run round and round the, victim in circles, gradually winding it up beyond all hope of breaking loose. Two genera of *Argyopidae (Hyptiotes* and *Τheridiosoma)* construct spring-nets out of their incomplete webs of the orbicular type. To the web is attached a trap-line which when drawn taut holds the snare stretched and tight, and when relaxed loosens the whole structure so that the threads fall together. When an insect strikes the web the spider loosens his hold of the trap-line, thus enveloping the victim in a tangle of threads which would otherwise not come into contact with it. Spiders which spin no snare are dependent for capturing prey for the most part upon their quickness or powers of lying concealed. Many *Thomisidae* lurk amongst the stamens and petals of flowers, which they closely match in colour, waiting to seize the insects which visit the blossoms for nectar. Examples of *Selenops (Clubionidae)* lie flat and absolutely still on the bark of trees, to which their coloration assimilates, and spring like a flash of light upon any insect that touches their legs; *the Lycosidae* dart swiftly upon their prey; and the *Salticidae,* which compared with other spiders have keen powers of vision, stealthily stalk it to within leaping distance, then, gathering their legs together, cover the intervening space with a spring and with unerring aim seize it and bury their fangs in its body. One genus of *Thomisidae (Phognarachne)*, which inhabits the Oriental region, adopts the clever device of spinning on the surface of a leaf a sheet of web resembling the fluid portions of a splash of bird’s dung, the more solid central portions being represented by the spider itself, which waits in the middle of the patch to seize the butterflies or other insects that habitually feed on birds’ excrement and are attracted to the patch mistaking it for their natural food.

The sexes of spiders are distinct. Except in the case of the water-spider (*Argyroneta)* the males are smaller, sometimes very much smaller, than the females, but have proportionately longer legs and smaller bodies. When adult the males may always be distinguished from the females by the presence of a pair of horny intromittent organs, one of which is lodged in the terminal segment of each palpus or appendage of the second pair. In its simplest form this is a hollow flask-shaped horny piece, con­sisting of a dilated basal portion and a terminal spiniform portion with an orifice at the apex; but its structure is frequently complicated by accessory processes and outgrowths which aid copula- tion and serve to protect the delicate point from injury. In the breeding season the male deposits drops of sperm on a sheet of webbing, picks it up in these flasks by means of capillary attrac­tion and carries it about until he falls in with a female. During pairing he thrusts the tip of these organs into the seminal vesicles of the female and the eggs are fertilized as they pass out of the oviduct. Cases of parthenogenetic reproduction, or reproduction without the intervention of the male, have been recorded in the case of two genera (*Filistαia* and *Tegenaria),* and may be commoner than is usually supposed. All spiders are oviparous. The number of eggs produced at a time varies enormously according to the species, from about half a dozen, more or less, in some ant-mimicking *Attidae* or jumping spiders to many hundreds in the larger orbicular-webbed spiders of the family *Argyopidae.* The first act of the female after oviposition is to wrap her eggs in a casing of silk commonly called the cocoon. The cocoon varies greatly in size, shape and consistency according to the nature of the spider that makes it. Sometimes, as in *Pholcus,* it is merely a thin network of silk just sufficient to hold the eggs together. More often it consists of a thick felting of silk, either spun in one continuous piece into a globular form, as in the *Aviculariidae,* or composed of two plate-like pieces, an upper and a lower, united at the edges and lenticular in shape, as in some of the *Lycosidea.* Sometimes it is woolly and flocculent, sometimes smooth like parchment, and its shape depends in a large measure upon the habits of the female towards her offspring. As a rule terrestrial spiders guard the cocoon in the permanent burrow, as in the trap-door spiders, or in the silken retreat which acts as a temporary nursery, as in the *Salticidae.* Other species of wandering habits carry the cocoon about with them, sometimes attached to the spinnerets, as in the *Lycosidae,* sometimes tucked under the thorax, as in the large tropical house-spider, *Heteropoda regia,* one of the *Clubionidae.* The females of some snare-spinning species, like the *Pholcidae,* carry it in their jaws; but in the case of the *Argyopidae* the females usually leave the cocoon to its fate as soon as it is constructed, sometimes rolling it in a leaf, sometimes attaching it by a stalk to a branch. It is in this and related families that the greatest diversity in the colour and form of the cocoon is found. In these spiders, too, the newly-hatched young shift for themselves as soon as they emerge from the cocoon; in others that guard the cocoon the young stay for a longer or shorter time under their mother’s protection, those of the wandering *Lycosidae* climbing on her back to be carried about with her wherever she goes. There is no metamorphosis during growth such as occurs in some insects, the young being hatched with its full complement of appendages and only differing from its parents in characters of comparatively minor importance. Growth is accompanied by a succession of moults, the spider emerging from its old skins by means of a fracture which extends along the front and sides of the cephalo­thorax just beneath the edge of the carapace. It is only at the final moult that the sexual organs are mature, the two sexes being alike in the earlier stages of growth. Until maturity is reached the spider has the power to repair lost or damaged limbs. If a limb be lost at an early stage it may be re-grown in perfection; but at later stages it is only imperfectly reproduced and is shorter and thinner than the other limbs. Rapidity of growth and longevity vary greatly according to circumstances and to the species. In northern and temperate latitudes where insects disappear in the winter, species of *Argyopidae* like *Aranea diademata,* live only for a single season. The young emerge from the cocoon in the early spring, grow through the summer, and reach maturity in the early autumn. The sexes then pair and perish soon after the female has constructed her cocoon. Species of other families (*Lycosidae, Clubionidae)* may live for a few seasons, hibernating in the soil or amongst dead leaves; and examples of the larger spiders (*Aviculariidae)* have been kept alive in captivity for several years.

Owing to the smaller size of the male and the greater voracity of the female, the male makes his advances to his mate at the risk of his life and is not infrequently killed and eaten by her either before or after pairing has been effected. Fully aware of the danger, he pays his addresses with extreme caution, frequently waiting for hours in her vicinity before venturing to come to close quarters. Males of the *Argyopidae* hang on the outskirts of the webs of the females and signal their presence to her by jerking the radial threads in a peculiar manner. Other web- spinning spiders (*Tegenaria)* have somewhat similar habits; and the male of the park-web spider (*Atypus),* one of the Mygalo- morphae, taps the walls of the tubular web of the female before daring to bite a hole in it and descend into her burrow. Most curious of all is the courtship of the mates of some species of *Salticidae,* or jumping spiders, which are decorated with plumes or coloured stripes or iridescent patches. These they display before her, posing and performing extraordinary antics in her presence exactly as cock birds behave towards their hens. Lastly, the males of some species of spiders differ from the females in possessing stridulating organs consisting of horny ridges and spikes and lodged either between the mandible and palpus as in some species allied to *Linyphia,* one of the *Argyopidae,* or between