

## Order OPILIONES.

The members of this order, known also as the "Phalangidea," or by the trivial name of "Harvestmen," must have taken their origin ages ago, even before the Carboniferous period, together with the ancestors of the Scorpiones, Pedipalpi, Acaridea, Chernetidea, &c., springing from a vast congeries of more or less problematic forms to which the name *Æropneustea* has been applied. It is probable that all the present existing Land-Arachnids diverged from the still earlier congeries of water-breathing forms, *Hydropneustea*, represented by the fossil *Gigantostrea* and *Limuloids*, and in recent and present times by the only surviving forms, *Limulus* and the Pantopods.

The period of their origination must, at any rate, have preceded the appearance during the Carboniferous epoch of the air-breathing scorpion, *Anthracoscorpius*. It is probable that the specialization began during the still earlier Silurian times, since in this period there existed an Arachnid which is a true scorpion in every sense, except that it has apparently no trace of air-breathing lung-sacs. It cannot at present be definitely decided whether these Silurian scorpions were "air-breathers" or "water-breathers," but it is probable that about this period of geological history modern Land-Arachnids, and with them the Opiliones, became specialized from water-breathing ancestors, since undeniable Opilionids, represented by *Eophrynus* and various other genera, existed in Carboniferous times.

The habits of the Opiliones are much simpler than those of the Araneidea, for although, like them, they are carnivorous, they make no web for the ensnaring of their prey, and the production and care of their offspring resolves itself into laying their eggs in convenient chinks and crevices, where the female leaves them, taking no further interest in their welfare.

The various species differ remarkably in structural character from the true spiders, although they approach more closely the Rhynchostomi or Acaridea in this respect. The "prosoma" and "opisthosoma," which are distinctly separated by a narrow pedicle in all the Araneidea into two main portions,—the carapace and abdomen—are in the Opiliones and Acaridea fused together. The traces of the original segmentation of the opisthosoma are still in strong evidence, the terminal four segments being even now free and unfused amongst the former, but in the Acaridea they have become entirely obsolete. The "Harvestmen," as well as the "Mites" and "Ticks," breathe by means of stigmata communicating with a system of tracheal tubes, the openings in the case of the Opiliones being two in number, situated on the third opisthosomatic segment, behind the coxæ of the fourth pair of legs, there being also spiracles on the tibiæ of the legs.

The method of the fertilization by the male of the ova of the female differs entirely from that which obtains amongst the true spiders. Whereas in the latter case no