

New Mexico and the Sierra Madre of Chihuahua. During a trip across the Sierra Madre of Chihuahua and Sinaloa in August and September, 1909, I made especial search for these forms but found none. A similar search earlier in the season would probably have been successful. These flies are of unusual interest as exhibiting facial and oral characters intermediate between those of the *Megaprosoptidae* and those of the *Oestridae*, while their weak macrochaetae show a further trend toward the latter family. It is probable that they parasitize wood-boring larvæ.

If, as seems very certain, *Rutilia* and *Amphibolia* represent an old stock, then uterine development must be of very long standing. Both forms have coiled uterus in which the elongate eggs hatch. Certainly a type without incubating uterus would seem to be the original, and elongate subcylindrical eggs should be the more primitive form. If this is true, we must go well back into the past for the beginnings of the remarkable specialization in reproductive system, eggs and maggots of these flies. These specializations have quite certainly been largely adaptive, and thus we are better prepared to accept their independent origin in several stocks. Ovate, flattened eggs are an adaptation for attachment to surfaces, the larger or macrotype forms being designed for fastening externally to host and the small or microtype forms for fastening to leaf-surfaces to be swallowed by host. Here is extensive adaptation even in size—a specialization to a microscopic egg that can be swallowed by leaf-feeding insects without injury to the contained maggot. This last specialization seems to have arisen independently in several stocks, since these eggs exhibit a wholly unexpected variety of structure, the choria of some being reticulate after a honeycomb pattern, those of others having a pattern of raised arcs or wrinkles, while some have a perfectly smooth and unreticulate chorion, and still others have the chorion finely or coarsely punctured or finely or coarsely set with raised points.

Pediceled eggs are for attachment to hosts in place of flattened eggs. If neither pedicel nor flatness can be secured, nor viscid secretion for gluing the eggs, nor structures for depositing them subcutaneously, then in order to meet the requirements of parasitism the eggs must be held in the uterus until the maggots are