

to be discovered. It should be said that the subject is one presenting great difficulties, as formerly stated by Burnett. The spermatic particles of the perch and smelt, are exceedingly minute, about $\frac{1}{1000}$ inch in diameter, and in these we have thus far found it impossible to detect the "tails" with a $\frac{1}{16}$ inch objective.

I have been informed by John Sears, of Danvers, Mass., that he found young eels, somewhat less than an inch in length, with the yolk-sac still attached, at the mouth of a shallow brook running into salt water at Danvers. This was during the month of March; the season was earlier than usual, the ice having broken up in February. This would indicate that the parent eel must have spawned in December. As Mr. Sears is an observing field naturalist, and has noticed the breeding habits of other fish, we suppose him to be correct in the identification of the young eel. We would inquire whether any one else has ever observed eels so young and small as these, and with the yolk-sac still attached.

Mr. Sears informs us, that at Danvers the trout begins to spawn in January, beginning then to make the shallow holes in gravelly places. He has noticed perch spawning in midwinter, in ponds in shallow water, their movements being observed through the ice; at this time the fins become red on the edges. On the other hand the bream spawns in spring and summer. The horned pout, he says, breeds in holes in the gravel in midsummer.—A. S. Packard, Jr.

A GALL-INHABITING ANT.—The empty dwellings of many animals furnish suitable abodes for others. The abandoned shell upon the beach finds an eager house-hunter in the hermit-crab; shells of *Helices* are sought by various European mason-bees and wasps as a fitting place in which to build their cells; two species have been found in New England to choose the concave vault of the oak-apple for the same purpose.

I can now record two instances in which galls have been chosen by an ant, *Stenamma gallarum* n. sp., as the home of the colony. The first colony observed was in a gall of *Gelechia galle-solidaginis* Riley, upon a dead but unbroken stalk of golden-rod. From pupæ found in this gall on the 31st of May, and placed in a vial under the care of a few workers, there matured three females, one upon each of the following days: June 20th and 23d, and July 7th. The second colony was found while upon an excursion with Mr. K. Mitsikuri, on the 22d of May, 1878, in a fallen gall of *Cynips spongifica* O. S. It was more populous than the other colony, and occupied the central cell, as well as the space between the kernel and the shell of the gall. Except the queen, who was without wings, the community consisted of workers and larvæ only.¹—W. H. Patton.

¹*Stenamma gallarum* n. sp.

Female.—Yellowish; head, scutellum and petiole above, and incisures of thorax darker; eyes, and spot at insertion of wings, black; the segments of the abdomen with dark-brown borders, the border on the first segment broad. Length, 3 mm.

Dried specimens become darker colored. Three pinned ♀ present the following

A HUMMER'S MEAL.—Mr. A. R. Wallace, in a recent number of the *Fortnightly Review*, says, concerning the tongues of Hummers: "This tubular and retractile tongue enables the bird to suck up honey from the nectaries of flowers, and also to capture small insects; but whether the latter pass down the tubes, or are entangled in the fibrous tips and thus drawn back into the gullet, is not known."

Mr. Wallace's remark led to some investigations during the past summer, the results of which do not entirely agree with his statement. Two hummers were attracted to the house by a saucer of syrup placed on the window-sill. Each day they would come and satisfy their hunger. In each instance they would alight on the edge of the saucer, and lap up the syrup as a dog would lap water. The question as to whether insects "pass down the tubes or are entangled in the fibrous tips and are thus drawn back into the gullet," was also solved. Insects too large to pass through these tubes being placed in their way, the birds were observed to take them as readily as smaller ones. The insects were evidently secured by adhesion to the saliva of the tongue-tips, and thence drawn into the gullet. In my opinion, these tubes of the tongue connect with the lungs rather than with the abdomen. These experiments were abruptly terminated, one day, by the approach of a third hummer, a male, who drove the others from the window, and in a fit of rage darted at one of the pair, thrust its bill well through its body, and both fell dead on the ground.—*W. H. Bal-
lou, Evanston, Ill.*

RECENT PAPERS ON CRUSTACEA.—From Mr. W. N. Lockington we have two papers on Crustacea—"Remarks on the Thalassinidea and Astacidea of the Pacific Coast of North America" (*Annals and Magazine of Nat. Hist.*, Oct., 1878), and "On the Porcellanidea of the West Coast of North America" (*ibid.*, Nov., 1878). In the first paper eight Thalassinidea and nine Astacidea are enumerated. One new species (*Gebia rugosa*) is described; *Callianidea typa* is added to our fauna (it was described by Milne

characters: Antennæ 11-jointed, joints 3-7 very short, the 8th joint a little longer, joints 8-10 with a brown annulus. Head, thorax and nodes of the petiole striate, metathorax with two stout spines, first node of the petiole with a short cariniform tooth at base beneath, second node with three very short, blunt teeth in the median line beneath. Body clothed with thinly-scattered, erect hairs; wings white, ciliate; head, thorax, and nodes, light-brown; mandibles, antennæ, and legs, pale yellow, the femora sometimes darker; abdomen, dark-brown; the bases of the segments above and the venter testaceous, the first segment with a broad yellow band at the base.

Worker.—Pale yellow, eyes black, first segment of the abdomen with two dark-brown spots above, which sometimes unite to form a broad band; the spines on metathorax more slender than in the ♀. The second node of the petiole without teeth beneath. Length, 2 mm.

The worker differs from the European *S. westwoodii* in having no spine beneath the second node of the petiole, and the species is easily distinguished by its color.

Connecticut.—Inhabiting galls of *Gelechia galle-solidaginis* Riley, and *Cynips spongifica* O. S., and frequenting the flowers of Violet and Potentilla.