

her at about six, a.m., she had made a flat web about a centimetre in diameter, held by threads extending in various directions to the sides of the bottle (A in the figure). The spider stood over this web and dropped the eggs (E) in a soft mass on it. She then spun threads from one side of the web to the other, over the eggs, until they were completely covered, and finished the cocoon by biting away the threads that held it to the bottle.

This agrees exactly with Menge's description of the cocoon-making of *Lycosa piratica*. In all his later accounts of this process, in various species of spiders, he says that, after the eggs are laid, the spider drops over them a small quantity of liquid which the eggs absorb, thereby becoming larger. This did not take place in any of the cases which I have seen. The eggs were always laid in a soft and wet condition, the whole mass resembling a drop of jelly, and they were always covered immediately by the spider.

J. H. Emerton.

Proceedings of the Club.

§ 27. LOCUSTS IN MID-OCEAN. Mr. SAMUEL H. SCUDDER exhibited a bottle full of Acridians put into his hands for identification by Dr. H. A. Hagen. They had been sent to the Museum of Comparative Zoology, at Cambridge, by Rev. N. H. Chamberlain, accompanied by the following memorandum :

These locusts came on board the ship Harrisburg, of Boston, on the passage from Bordeaux bound to New Orleans, on the 2d day of November, 1865, in Lat. 25° 28' North, Long. 41° 33' West, making the nearest point of land 1200 miles off. They came on board in a heavy rain squall; the clouds and ship's sails were full of them for two days.

E. G. WISWELL, Master.

The locusts prove to be *Acridium (Schistocerca) peregrinum*, long known for its powers of flight and destruction in the Old World. The Comptes-rendu of the Belgian Entomological Society, No. 44, Nov. 3, 1877, p. 3-5, contains a note upon their appearance in Corfu, in Spain, and even in England. The Corfu swarm was composed of the variety with yellow colored hind wings, and therefore came from northern Africa, where that form is found; while the Spanish and English swarms were

of the rose colored variety, and must have originated in Senegal. But the most interesting point of all is the fact, first pointed out by Stål, that all the other species of that group of the genus to which this species belongs are American, whence it is highly probable that *A. peregrinum* also is indigenous to America, from whence it has been recorded. Its occurrence in mid-ocean in such numbers is a clear indication that it originally flew from one continent to the other in sufficient numbers to establish itself in a new home. (Dec. 14, 1877.)

§ 28. CHEMICAL EXPERIMENTS ON THE RESPIRATION OF INSECTS. Mr. G. DIMMOCK called attention to an article, by Robert Pott, in *Landwirthschaftliche Versuchsstationen*, xviii, 1875, p. 81, entitled *Ueber die Mengen der durch Respiration und Perspiration ausgeschiedenen Kohlensäure bei verschiedenen Thierspecies in gleichen Zeiträumen und unter verschiedenen physiologischen Bedingungen*, in which are recorded the results of experiments to determine the amount of carbonic dioxide given off by forty-two different animals, under similar conditions. The results of the experiments on the insects were as follows: For every one hundred grams weight of living insects, there was exhaled during six hours, the annexed weight of carbonic dioxide (CO₂).

Mistkäfer, <i>Geotrupes vernalis</i> ,	0.678	grams.
Laufkäfer, <i>Carabus</i> ,	0.981	“
Egerling, [larva of May-beetle ¹],	0.592	“
Fuchsschmetterling [<i>Vanessa urticae</i>],	0.888	“
Kohlweisslingraupe, <i>Pieris brassicae</i> [larva],	0.706	“
Ligusterschwärmerraupe [<i>Sphinx ligustri</i> , larva],	1.321	“
Ligusterschwärmerpuppe [<i>Sphinx ligustri</i> , pupa],	0.780	“
Weidenbohrraupe, <i>Cossus ligniperda</i> [larva],	0.519	“
Bärraupe, [<i>Bombyx caryae</i>]	0.861	“
Grashüpfer [grasshopper],	0.475	“
“ (andere Species) [grasshopper, another species],	0.442	“
“ (andere Species) [grasshopper, another species],	0.593	“
<i>Gryllus campestris</i> (6 Tage alt) [6 days old],	1.356	“
“ “ (and. Individuen) [other individuals],	1.382	“
Blattwanze [<i>Tenthredo?</i>],	1.276	“

¹ The parts in brackets were added by Mr. D. The rest of the table is quoted. It is to be regretted that writers on chemical zoology do not always give the scientific names of the species experimented on.

From Mr. Pott's experiments, of which a more extended abstract can be found in the *Jahresbericht für Agriculturchemie* for 1875 and 1876, Bd. ii, p. 119-121, it appears that the evolution of carbonic dioxide, for like weights and times, is greatest in aves, less in mammalia, still less in insecta and batrachia, and least in vermes and mollusca.

In a house-mouse experimented upon, the same author found the amount of carbonic dioxide exhaled varied when the animal was kept in different colored lights, being greater in colored light than in white light, and the greatest in green or yellow light. A series of extended experiments upon the respiration of insects would be a valuable addition to entomological knowledge. (Jan. 11, 1878.)

STRIDULATION OF COLEOPTERA. Is it worth while to note in PSYCHE the two following cases of stridulation? I would be glad if other persons having the opportunity would observe the noises made by Coleoptera, and the movements by which they are produced.

Passalus cornutus makes a very loud stridulation by rubbing the acute edge of the ventral segments against the inner edge of the elytra. *Lucanus*, on the contrary, is entirely mute.

Prionus brevicornis stridulates by rubbing the rough surface of the inner side of the hind thighs, near the distal end, against the outer edge of the epipleuræ, *i. e.*, against the lateral margin of the elytra. The movement of the legs is alternate and the sound is made while the leg moves downward.

J. L. LeConte.

ELYTRA OF DYTISCUS AND ACILIUS. On page 436 of Packard's "Guide to the Study of Insects," is a singular error, namely:—

"The males of these two genera [Dytiscus and Acilius] often have the elytra deeply furrowed while those of the females are smooth."

The reverse of this is the general fact. The elytra of the males are smooth and those of the females are furrowed. This arrangement is for the purpose of enabling the males to get a good foothold. One does now and then get hold of a smooth female, and it would be interesting to know if such females are fertile. W. V. Andrews.

MODE OF ADVENT OF ANTHRENUS SCROPHULARIAE. I have noticed the new "carpet beetle," *Anthrenus scrophulariae*, in considerable numbers for the past two years mingled with *A. varius*, among the dried skeletons of Peabody Museum. As a large number of these skeletons have been brought from England, I do not doubt but that the beetles were in this case originally from thence, especially as they thus cling to their previous habit of feeding upon dried meat. S. W. Williston, New Haven, Conn.

CORRECTION. In no. 45, of PSYCHE, v. 2, p. 101, lines 13 and 14, for Haldeman's read Leidy's.



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