and Messrs. Herbert Osborn and B. Pickman Mann. On motion the Club then adjourned, to meet again under the rules at the next meeting of the A. A. A. S.

(The above has been compiled chiefly from the excellent report of the Secretary, Mr. John B. Smith.—Ed. C. E.)

COLEOPTERA IN SEPTEMBER ON BRIGANTINE BEACH, N. J., ON THE ATLANTIC COAST.

BY JOHN HAMILTON, ALLEGHENY, PA.

Coleopterists accustomed to collect on the sea shore may find little that is new to them in this article ; but to those from the interior, making only occasional short visits, it may be useful in directing attention to some of the less common insects, and to some not likely to be found by one unacquainted with their habits. Brigantine Beach is somewhat insular, being six or seven miles off from the main land, yet none of the Coleoptera mentioned are peculiar to it, and, being mostly maritime species, probably occur in suitable situations all along the coast from New York southward indefinitely.

This beach is nothing more than a succession of sandhills elevated from five to ten feet above the line of high tide, two or three hundred yards wide, fronting on the ocean and extending from inlet to inlet about six miles. Some of these hills are thinly overgrown with coarse grasses ; and others with thickets of *Myrica cerifera* (Bay berry), interspersed with *Rosa lucida* and clumps of *Baccharis halimifolia*, so conspicuous in this month by its abundant, very long and white pappus. Back of these hills to the Bay are the salt meadows, from five to seven hundred yards in width ; they are overflowed by the high tides in spring and autumn, though several inches above the ordinary ones of winter and summer ; they are always damp, and support a growth of coarse grass, sedge, etc. At first sight this does not appear to be a very promising field for the Coleopterist, and yet the catalogue contains nearly three hundred species.

Panagæus crucigerus Say annually rewards the careful searcher with a few specimens, occurring mostly on the little circular elevations on the meadows under pieces of wood and the debris left by the high tides.

Philhydrus reflexipennis Zimm. is found in the shallow fresh water pools that are formed at the base of the sandhills, together with *Hydro-*

philus glaber, while *P. ochraceus* is abundant on the meadows under boards and pieces of wood.

Emplenota maritima Casey. This minute insect has only recently received a name, generic and specific. It is found in moderate abundance on the coast under the debris cast up by the waves and left by some of the higher tides along the high-water line, after it has remained undisturbed for three or four days. It is readily recognized by its great resemblance to a small *Aleochara*; length, .12 to .16 inch; head deflexed; sides of abdomen strongly margined; color piceous black with the anterior border of the abdominal segments pale. It is usually found in company with *Cafius bistriatus* and *Phaleria testacea*, without vigilance it will be overlooked. (See Number I., Contributions to the Descriptive and Systematic Coleopterology of North America, by Thos. L. Casey, Lieut. of Eng'rs, U. S. A.)

Quedius brunnipennis Mann. is sparingly found under the debris left by the high tides along the margins of the meadows. *Staphylinus praelongus* Mann. occurs in the same situations much more abundantly. *S. vulpinus*, *S. tomentosus* and *Ocypus ater* are found with it rarely, and more properly belong to the main land.

Cafius bistriatus Er. is met with as stated under *E. maritima*, and is rather abundant. The debris should be shaken over the white sand, on which the insects may readily be seen as they fall. It is easily known by its brown color and bistriate thorax.

Bledius mandibularis Lec. is exceedingly abundant in the meadows on bare sandy places not often covered by the tide, but kept constantly damp by capillary attraction. One, as in the case of the writer, might pass over them for years unconscious of their presence till discovered by accident. They live in galleries at a depth of from six to ten inches beneath the surface, the entrance to which is surrounded by castings similar to those made by earth worms. The upper portion of these openings is used by two or three species of small crustaceans for a retreat, and when the novice scoops over the wet sand, finding these and considering them the excavators, he goes no further, and the real architect several inches deeper escapes detection. The species is one of the finest of the genus.

Bledius cordatus Say, though existing in countless multitudes, is not often found, being small, and mostly inhabiting the grassy parts of the meadows. They occasionally fly at night in swarms, but whether this

occurrence is periodically habitual, or accidental from some local cause, is not known. I obtained nearly an ounce bottle full of them on the night of Sept. 28th, 1883, and could easily have procured half a pint. The evening was warm and sultry, and exceptionally calm. When the central chandelier in the parlor of the hotel was lit, my attention was directed to a fall of small insects from the lights to a marble-topped table beneath. I saw they were brachelytra, and in a couple of hours (the duration of the flight) had taken from this table the quantity stated. They invaded all the lower parts of the hotel where there were lights, occasioning no small annoyance. They proved to be of this species. No one connected with the hotel had ever noticed them before; none occurred the next, or subsequent evenings. This year I left on the 26th without having observed a single one, though they were doubtlessly present in millions.

Rhyphobius marinus Lec. is met with abundantly on the elevated places on the meadows under debris that lies on dryish sand. It is interesting chiefly on account of being so minute. The only other species of the genus known to me is found here on leaves, generally hickory and walnut; it is much larger and as yet undescribed. With *marinus* is found in great abundance *Anthicus formicarius* and *Bembidium constrictum*.

Anisosticta seriata Mels. is usually taken about the remains of dead animals, but not plentifully. Whether it is carnivorous, or only resorts to such places for shelter, is not known, but I never found it elsewhere. The ornamentation of the elytra is a little variable. Normally there are three large common sutural spots connected by a line, and three marginal spots slightly connected on the margin, black; these spots, however, may all be isolated; or the marginal ones become confluent, and also unite with the posterior sutural spot which usually extends to the margins of the elytra. The amplification of Melsheimer's description by Mr. Crotch in the Trans. Am. Ent. Soc., vol. 4, p. 369, is quite misleading.

Dermestes Frischii Kugel occurs on the sandhills among the refuse of fish. This year only a few specimens were obtained on account of the food supply having been minimized.

Hister arcuatus Say. Specimens of this beautiful species are occasionally taken on the sand, but I could never find its habitation.

Monotoma producta Lec. occurs in the same situations as *R. marinus*, where it is difficult to see, as it feigns death, and then resembles fine particles of the debris. A good way to obtain it is to examine the underside

of chips and pieces of wood, to which it often clings in considerable numbers, and where also will be found *Mantura Floridana*.

Aphodius phalerioides Horn is rare, for during eight years only three specimens were found, and the circumstances of their occurrence were not noticed, as they were in the collecting bottle with the superabundant *Phaleria testacea*, from which they can only be separated by careful examination.

Ataenius. An undescribed species is found on the meadows under moist decaying debris. This species is about the size of *stercorator*, and one of the finest of the genus. It may be known by its fine, narrow elytral striæ, with small, close transverse punctures; broad, flattish intervals, and deep piceous black color.

Trox scabrosus Beauv. is rare, being met with in dry sand under desiccated human excrement, or under boards in its vicinity; and here it may be remarked that no Coleopterous insect in any stage seems, on this island, to inhabit the ejectamenta of herbivorous animals. *T. asper* and *T. suberosus* may be found sparingly about the remains of dead animals, but such are rare.

Ligyris gibbosus DeGeer comes at night to light in vast numbers. In the office of the hotel in less than one hour, one evening, over a hundred specimens were taken. It seems to be distributed in the United States from the Atlantic to the Pacific.

Euphoria areata Fab. is likewise a widely distributed species in the warmer arenaceous districts, but not recorded as occurring west of Texas. What its habits are in other places and at other times is unknown to me, but my experience with it is this: Sept. 9th, 1877, about ten o'clock in the forenoon, five specimens were taken flying about a small sand hill crowned with wild rose bushes; next day about 100 were taken from ten to twelve, and the succeeding day five or six at the same hours, but none on any subsequent day. The next year I reached there on the 15th, but saw none that season. The third year I came on the 5th, but none appeared till the 10th, when about thirty were taken, and on the next twenty, but none thereafter. From that year till the present I was never there previous to the 12th of September, and no specimens occurred. The present year I came on the 9th, and took two specimens at the usual hour on the 11th, but none thereafter. Back of this sand hill, in 1877, was about half an acre of cultivated ground, which was abandoned three years ago. I infer from all this that the insects I met with were bred in

that garden ; that they completed their transformations annually about the same day, and emerging from the earth about the same hour immediately resorted to the nearest sand hill to find a place suitable for social hybernation.

Galeruca maritima Lec. is more abundant on the meadows earlier in the season, though a number may still be found under any stick or board that affords them shelter. Their color varies from pale to brownish black.

Epitragus arundinis Lec. is found in warm days on the sand, or on the board walks, but not plentifully.

Anthicus pallens Lec. is rarely found. It occurs on the sand hills in the loose sand under or near human excrement that has dried up, or been partly consumed by *Saprinus Pennsylvanicus*, *Sphaeroides fraternus*, &c. By carefully scooping over the sand to the depth of five or six inches a specimen may rarely be taken, though it requires patience and close watching, as they are few and far between, and white like the sand.

Anthicus confusus Lec. is met with frequently in cultivated places under decaying vines and weeds. Three or four other species of this genus are likewise found here, but are not determined.

Sphenophorus retusus Gyll. frequents dry sandy mounds that support a sparse growth of coarse grass, where it may be found sparingly on very warm sunny days. It is easily known by the smooth rhomboidal figure on the thorax, and the elytra no longer than the head and thorax together.

S. costipennis and *S. pertinax* are sometimes found in dry places under sods, and *S. placidus* occurs in large numbers under logs that have drifted upon the meadows and become embedded in the wet soil.

Except incidentally, is omitted all mention of such maritime species as are abundant, and the many that are likewise found inland, besides a large number of no particular interest at present. Species often find their way there accidentally, being blown by the wind and otherwise transported from the main land, or cast up by the waves. At this season among the former is *Cicindela modesta* Say.; among the latter, *Calosoma scrutator*, *Purpuricenus humeralis* and *Pachylobius picivorus*.

The *Carabidæ* and *Staphylinidæ* are in general well represented, while the *Elateridæ*, *Buprestidæ*, *Lampyridæ* and *Cerambycidæ* seem to be entirely absent as regular inhabitants.