shining black with a circle of reddish spines at the end of the ovipositor. Length, 13 mm.

The male (holotype) was taken about two miles above Bashbish Falls, Mass., June 27, 1912, and the female (allotype) on Mt. Equinox, near Manchester, Vt., June 5, 1910. Types are in the New England collection of the Boston Society of Natural History.

I referred a single specimen of this species provisionally to *C. nigripes* Will., but an examination of a specimen of that species in the U. S. National Museum proves them to be distinct. It is readily distinguished from *C. nigripes* by its yellow tibiae and tarsi, and brownish not "pure hyaline" wings.

***Nicocles politus* Say.**

This species was taken by Mr. A. P. Morse at Haggetts Pond, Essex Co., Mass., Sept. 21, 1911. The only other record for this species in New England, is in the Harris collection, Cambridge (Mt. Auburn), Mass., Aug. 1, 1836.

***Promachus fitchii* O. S.**

This species has been captured at Dudley, Mass., July 10, 1911, and Southbridge, Mass., July 7 and 8, 1912, by Stanley W. Bromley. The previous New England records are Amherst, and Mt. Tom, Mass., July 14.

VARIATIONS OF *ORSODACHNA ATRA*—COLEOPTERA.

By C. A. FROST,
Framingham, Mass.

An interesting series of this beetle was taken on the flowers of a clump of *Viburnum* bushes growing beside a road in the town of Paris, Maine, on June 15, 1910. There were no other clusters of the bushes to be seen in the vicinity, and the surrounding country was largely cultivated, with a few bushes along the road. The elevation is in the neighborhood of 800 feet above the sea level. The following descriptions of the color variations may be worth presenting:

Two specimens.—Piceous black except the base of femora, basal half of tibiæ, base of tarsal joints, and the antennæ beneath, which are testaceous; first antennal joint, and the fourth to tenth inclusive, dark above, except at the bases. Length 6 mm. These are *tibialis* Kirby.

Two specimens.—Head, body, and elytra black. Thorax red dish. Legs mostly reddish-testaceous in one, and mainly black in the other. Antennæ partly dark above as in previous specimens. Length 6 and 4 mm. *Hepatica* Say.

One specimen.—All black except for humeral spots, posterior half of epipleuræ, gular region, mouth parts, antennæ, and the greater portion of the legs, which are testaceous. Length 4.5 mm.

One specimen.—Similar to the last with the addition of a testaceous apical spot on each elytron, and with the femora darker at tip. Length 5 mm.

One specimen.—Similar to the last two but with a smaller apical spot and with the antennæ lighter above; front and middle legs lighter. Length 3.5 mm.

One specimen.—Similar to the last but with the humeral spot extending behind the middle, legs entirely light, antennæ lighter, light area of epipleuræ extending farther forward. Length 4.5 mm. The last three specimens appear to answer to the variety *childreni* Kirby.

One specimen.—Similar to the last but with half of the front and all of the under side of the head testaceous, front angles of the prothorax with a testaceous area extending back along the sides, anterior portion of the prothorax beneath reddish testaceous, part of hind femora piceous. Length 5.2 mm. Between *luctuosa* Lac. and *childreni* Kirby.

One specimen.—All testaceous except occipital spot, body beneath, and a broad post-median band, equaling one-third of the elytra, which extends along the suture and margins to the base, sends out a short submarginal spur posteriorly and darkens the suture nearly to the apex of the elytra; there are also two darker spots and an anterior transverse line on the disk of the prothorax. Length 5.6 mm.

One specimen.—Similar to the last but having the post-median band interrupted near the suture. The metasternal side pieces

and the posterior coxæ are here lighter than the abdomen. This approaches *trivittata* Lac. in color. Length 6 mm.

One specimen.—All testaceous but the metasternum, abdomen, a triangular spot near the middle of the elytra extending part way to the humeral angles, the apex of elytra, and a portion of the suture, which are black. Length 6 mm.

One specimen.—Similar to the last with the dark areas still further reduced and the abdomen showing a testaceous shade. Prothorax more reddish yellow. This specimen, at first glance, appears to be entirely testaceous. Length 7 mm.

One specimen.—This has a general fuscous shade with a discal stripe on the elytra lighter. Prothorax reddish. Length 5 mm. *Vittata* Say (?).

In all the above specimens the punctation is about the same; irregularly, coarsely punctate on the prothorax, where the punctures are separated by one to four times their own diameter, becoming closer at the sides; they are closer and more regular on the elytra.

A series taken by me at Fraser, Colorado, July 4, 1911, at an elevation of about 8,000 feet, have the punctation exactly like those from Maine. This series has three specimens of the variety *childreni*, one near *tibialis*, and the rest near *trivittata*. A number of specimens near the last variety were taken on the top of Lookout Mountain near Golden, Colorado, about 7,000 feet. The variations in length are from 4 to 7 mm.

Another series of five specimens, received from Dr. A. Fenyes, taken at Ahwahnee, California, in May, have the elytra so closely punctured, especially on the disk, that the punctures are nearly confluent transversely, causing the elytra to appear rugose. All but one of these specimens have the prothorax reddish, the exception having a discal black spot. Three of them have the base of the femora and part of the tibiæ and tarsi reddish yellow. In color these appear to be near *hepatica* Say. They vary in length from 5 to 7.5 mm.

Through the kindness of my friend, Mr. William M. Mann, I have been able to examine a series of five specimens from "Corte Madera Creek, Cal., III-16-1900," and another of ten specimens from "Pullman, Wash., IV-21-09."

The California specimens have the normal punctation, like

those from Maine, while those from Pullman present almost the two extremes of elytral punctation and clearly demonstrate that no line can be drawn by the sculpture. In both series specimens vary from almost entirely testaceous, (having an occipital spot and the suture darker, and the abdomen and metasternum black) to entirely black, with the antennæ, mouth parts, and tarsi piceous. The California specimens all measure 5 mm. in length while the Pullman specimens vary from 4 to 7 mm.

In all the series examined the darker specimens have a closer and deeper punctation but the series from Ahwahnee present such an extreme that, if it were not for intermediates like those from Pullman, they would appear to merit specific rank.

THE HOUSE FLY IN ITS RELATION TO CITY GARBAGE.¹

By JOHN HOWARD PAINE.

In connection with an endeavor to introduce into the city of Boston the use of paper bags in garbage pails, with the idea of preventing fly maggots from remaining attached to the sides of the pails after collection of the contents, the question arose, "Does the housefly breed extensively in garbage?" To obtain data upon this subject, experiments were undertaken to breed out flies from miscellaneous collections of maggots occurring in city garbage.

Considerable attention has been given to the breeding places of the house fly. A general idea seems to prevail that this species seldom develops in garbage. Howard² quotes Professor J. S. Hine, of Ohio State University, as being of the opinion that "while house flies visit garbage in numbers, they appear in most cases to be after food only, as only a few specimens of this species were reared from such material during the season when he was at work." Howard then goes on to say that Professor Hine found that the fly which commonly bred in fermenting vegetable refuse from the kitchen was not the typhoid fly, but *Muscina stabulans*,

¹ Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 58.

² Howard, L. O. The House Fly—Disease Carrier. F. A. Stokes Co., New York (1911) p. 9.