

Excerpt from Canadian Entomologist, November, 1938.

SOLENOPSIS ROSELLA KENNEDY, A NEW ANT FROM  
SOUTHERN ONTARIO.\*

BY CLARENCE HAMILTON KENNEDY, K75A

Ohio State University, Columbus, Ohio.

While on an ant-collecting trip to Pelee Point, Ontario, August 6, 1931, with Dr. Mary Talbot, Miss Mable Schramm and Prof. Merle G. McFadden, the writer found a queen (Coll. No. 526), the first specimen of this new *Solenopsis*. The striking rose pink color of the gaster was a shade of red we had not found before in any of the ants of this region.

While working on the sand plain along the west side of the sand spit on the south shore of Pelee Island, June 25, 1934, with Dr. Mary Talbot, Dr. C. A. Dennis and Prof. Mark A. Shellhaas we discovered three nests of this ant, in each case in coarse, damp (almost wet) sand and in association with the nest of a larger ant. Neither Dr. Talbot nor I have searched specifically for this ant since.

***Solenopsis rosella* Kennedy**

*Holotype*, winged queen from nest No. 1372, Kennedy collection. Figs. 3, 5 and 6.

Length 4.5 mm. dried (females in alcohol 5 mm.).

Head (Fig. 5) with length to width as 8.5 to 7.5, the posterior contour rounded from eye to eye making almost a half circle while the sides below the eyes converge slightly to the bases of the mandibles. Clypeal border projecting, terminating in two prominent teeth which are the lower ends of diverging clypeal carinae. Lateral denticles feeble, each with a bristle one third as long as mandible. Frontal area a triangle with its narrow posterior angle rounded, while below it is open into the area between the clypeal carinae. Mandibles with outer side flattened at base; each with four teeth, the outer tooth twice as long as either of the next two, the inner tooth minute. Antennal scape in repose reaching to middle of lateral ocellus. First segment of funicle (fig. 3) equal in length to segs. 2-4 together. Seg. 2 of funicle slightly wider than long but appearing longer than wide because seg. 3 is so distinctly wider than long (seg. 3, width to length as 3 to 2). Segs. 2-8 all wider than long. First segment of club one half as long as the second or terminal segment.

\*This article and the work on which it reports was done at the Franz Theodore Stone Biological Laboratory of Ohio State University.

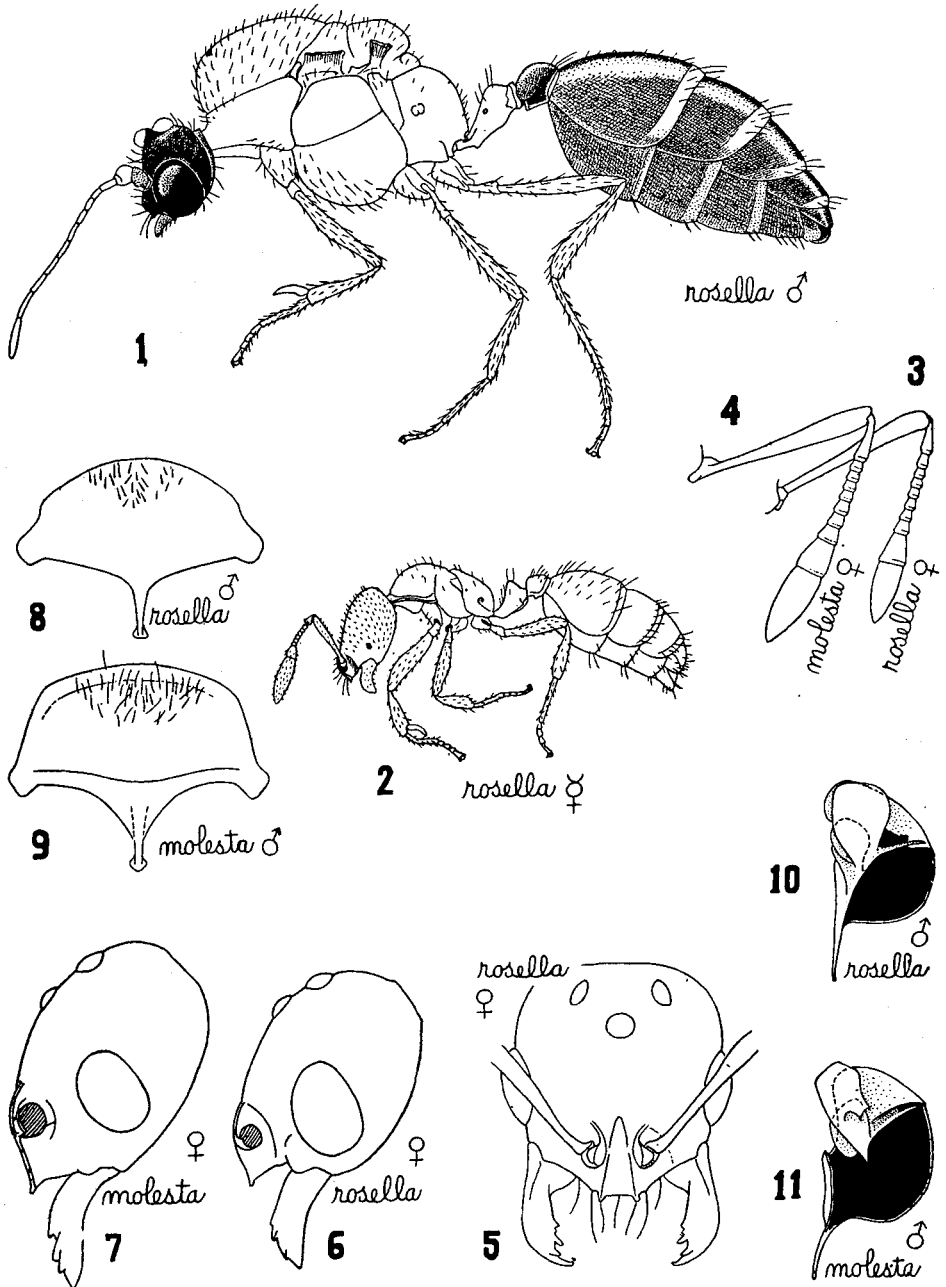


Fig. 1. Male of *Solenopsis rosella* n. sp. from nest No. 1272. 2. Worker of *rosella*. 3. Antenna of queen. 5 and 6. Head of queen. 8. Subgenital plate of male. 10. Left genitalia of male.

Fig. 4. Female of *Solenopsis molesta*, antenna. 7. Head of queen *molesta*. 9. Subgenital plate of male *molesta*. 11. Genitalia of male *molesta*.

Specimens of *rosella* from nest No. 1372, of *molesta*, male Gibraltar, No. 2704, queen, Kelley's Island No. 935.

Eyes large (as compared with those of the female of *molesta*), oval, the greatest diameter six times the distance of eye from base of mandible. Eyes sparsely hairy (fig. 6).

Structure of thorax identical with that of the female *molesta*, except that the collar on the anterior end of the pronotum, which covers the cervix and anterior ends of the proepisterna is so narrow that it can scarcely be recognized as a collar. (In the *molesta* queen it is broad and very obvious).

Petiole similar to that of *molesta* but slightly indented above. When viewed from above it is slightly indented on posterior dorsal surface and broadest through the posterior third. (In *molesta* globose from above.).

Gaster as in *molesta* with anterior and posterior contours abrupt giving a cylindrical appearance.

All major surfaces of the queen glossy smooth except for the minute and shallow punctation for the hairs. Sides of the petiole and post-petiole feebly shagreened.

Head, body and appendages covered with conspicuous pale yellow hairs. In the majority of the larger areas of head and body the hairs equal in length the first segment of funicle. On the tibiae, tarsi and antennae the hairs are half as long or less. Head hairs are inserted at distances from each other of one third to one half the length of a hair. Dorsum of thorax with fewer and longer hairs, its lower sides almost hairless, and shining. A half dozen long hairs on dorsal surface of petiole, its posterior side with shorter hairs as cover also the dorsal surface and sides of the post-petiole. (As compared with *molesta* the hairs are more sparse.).

Color: Head (preserved, faded material) light brown shading to darker brown on face and mandibles. Thorax, legs and abdomen straw yellow. The live color is very different. From my field notes on Queen No. 526. I quote: "Gaster rosy pink on dorsum of seg. 1 and anterior three fourths of seg. 2, shading caudad into orange. Venter of gaster yellow. Thorax and legs straw yellow. Head dull vermilion with blackish area on vertex and face."

*Allotype*, male from nest No. 1372. Length 3.5 mm. (dried). Figs. 1, 8 and 10.

Structure as in male *molesta*, except in genitalia. The width of the sagitta is two-thirds its length (fig. 10). (In the *molesta* male the sagitta is narrower. Its width equals half its length.) The subgenital plate, fig. 8, has its posterior and lateral edges in one evenly rounded curve. (Compare with fig. 9, *molesta*, where the slightly converging sides are almost at right angles to the transverse terminal edge.) Eyes hairy.

Color: Head a dark slate gray above and on sides. (fig. 1) below shading into straw color on the mouth parts. First segment of antenna pale brown, the antennae otherwise pale straw color as are the thorax, legs and petiole. Postpetiole and gaster a medium gray. (See fig. 1. This color of the male distinguishes the male at once from the male of *molesta* which is dark slate or black except for the pale antennae and legs.).

*Worker*: From nest No. 1372. Length 1.75 mm. Fig. 2.

Head viewed from in front nearly rectangular, its width one and one third

times into its length. Posterior angles rounded, while below the eyes the sides round gently to the bases of the mandibles. Clypeus drawn out below into a medium pair of prominent teeth separated by a shallow indentation. (In some workers from the same nest these clypeal teeth are not prominent enough to be called teeth.) External to each tooth a long bristle, while a shorter bristle arises on median line of edge of clypeus. Clypeal carinae leading to the two teeth not conspicuous. Eyes small, 2-4 facets. Antennal funicle with nine segments the last two of which form a club. The second segment of funicle is nearly equal in length to total length of segments 3 and 4. (In *molesta* segments 2, 3 and 4 of funicle are of equal length.)

Thorax as in the worker of *molesta*. Petiole, viewed from above, slightly narrower than the post-petiole. The petiole and post-petiole not as definitely indented as in these parts of the queen.

Surface glassy smooth with pilose punctation. Distribution of hairs and punctation as in the queen but hairs on thorax and legs much less abundant. See description of female (queen). Petiole with 2 erect hairs above and scattered lateral hairs. Post-petiole with 6 erect hairs and a few lateral hairs. Gaster sparsely clothed in long hairs. See fig. 2.

Color: The worker is a pale straw yellow, slightly deeper in color on head, and dorsum of thorax and gaster. (In some large workers a trace of rose pink was present in material alive. This color was, as in the queens, inside the first and second segments of the gaster.)

*Paratype material.* This consists of four nests. No. 526 one queen, collected August 6, 1931, in or near a nest (No. 525-1) of *Aphaenogaster fulva aquia* Emery. This nest was in moist coarse sand at the top level of the beach along the west shore of Pelee Point, Ontario. The queen was discovered crawling over the pile of sand after digging the *Aphaenogaster* nest.

Nest No. 1372 was taken June 25, 1934, eight inches to one side of a nest (No. 1371) of *Iridomyrmex analis pruinosus* Emery in coarse sand on the sand plain along west side of the sand-spit on the south shore of Pelee Island, Ontario. Nest very moist. One chamber was dug around a rotten weed stem, which had channels chewed lengthwise in it. This cavity was one half inch by one inch in size. The sand was so crumbly that no tunnels or other chambers were noticed. Twenty winged queens, 6 males and 12 workers were taken, and were later injured in the collection by fracture of the bottle neck.

Nest No. 1376, as was the next No. 4-84, in the Talbot collection, was taken on the same sand plain June 25, 1934, about 18 inches from a nest of *Formica pallide-fulva Schaufussi* Mayr. The deeper cells (12 inches or more down) of the *Formica* nest were being dug when the two nests of *rosella* were shovelled out on the large pile of loose moist sand. No nest cavities were identified. No 1376 produced 6 winged queens, 10 males and 14 workers. Nest No. 4-84, now in the Talbot collection contained 3 winged queens, 9 males and 14 workers. The workers are so minute we probably found but a fraction of them.

The writer has studied no *Solenopsis* material beyond the very common *Solenopsis molesta* Say. *Rosella* appears to be close to *molesta* from which spec-

ies it differs in greater length of seg. 2 of the funicle of the female and worker, in the pink color of the gaster of the queen, in the light tan or yellow thorax of the male and in the relatively larger eye of the female and wider sagitta of the male. In Creighton's monograph of New World species of *Solenopsis* (1930) it runs to the subgenus *Diplorhoptrum*, in which is also found *molesta* Say.

The name *rosella* refers to the rose pink abdomen of the queen, and means literally "the little rosy one." Types are in the writers collection.

Apparently this is an ant that is found only by digging six inches or deeper in coarse moist sand at high beach level. Probably its nests are rather permanent attachments of the more extensive nests of larger species. It is so small in the worker caste that it may be able to travel through the coarse sand it inhabits without making very definite galleries.