

**A new species of *Pullus* Mulsant (Coleoptera, Coccinellidae),  
predaceous on the aphid, *Rhopalosiphum nymphaeae* (Linn.),  
in Calcutta**

By

A. P. KAPUR AND (MISS) SUSHILA MUNSHI

*Zoological Survey of India, Calcutta*

(With 1 Plate)

CONTENTS

	PAGE
I--Introduction .. .. .	1
II--Description of the Species .. .. .	1
III--Summary .. .. .	3

I—INTRODUCTION

During the course of general insect survey of Calcutta and its environs, a number of Lady-beetles (Coleoptera, Coccinellidae) were collected over the past several years. In this paper one of the hitherto unnamed species of the genus *Pullus* Mulsant is described. It was found feeding on the aphid, *Rhopalosiphum nymphaeae* (Linn.) (Hemipt., Aphididae), on the water-plant, *Pistia stratiotes* L. (Araceae), in certain ponds in the Eden Garden, Calcutta. During November-December, 1957, when both the water-plants and the aphids mentioned above were quite common in the ponds, the Lady-beetles were found to be freely breeding among the aphid colonies. Subsequently some more examples of the beetle were collected from the same locality. Two examples of the beetles were also obtained from Bansdhani, a suburban area, some 10 km. south of Calcutta.

Thanks are due to Shri S. K. David for the identification of the aphids and to Dr. M. L. Roonwal, for his encouragement.

II—DESCRIPTION OF THE SPECIES

***Pullus nymphaeus* sp. n.**

♂, ♀. Body oval, moderately convex with fairly distinct humeral calli ; pubescence mostly greyish, on the whole long and sparse ; dorsal surface piceous except towards the apex where it gradually becomes dark brown (Fig. 1, left half) ; the frons, mouth-parts and antennae also dark brown. In some of the examples the colour at the apex of the elytra, frons, antennae, mouth-parts, etc. may be a little lighter than is the case in the majority of examples, described above. Underside piceous except for the dark brown pronotal epipleurae, the legs and the apical two abdominal sternites.

*Head* with rather coarse, impressed and generally sparse punctation ; pubescence also sparse, moderately long, sub-depressed, directed

anteriorly, rather pale grey ; eyes finely faceted ; antennae (Fig. 2) club-shaped, the 1st, 3rd and 9th segments long, the 4th, 5th and 6th short and subequal, and the remainder segments of intermediate length. *Pronotum* convex, a little more than twice as broad as long, slightly narrowed and rounded laterally, a little emarginate anteriorly ; narrowly but distinctly margined at the median two-thirds the width of the base ; the anterior angles subacute, the posterior ones rather rounded and obtuse ; punctuation uniform, moderately coarse, relatively less impressed and sparse than that on the head ; pubescence longer than that on the head, sparse and suberect, mostly directed antero-medially except in the median basal area where it is more inclined towards the longitudinal median line and rather irregularly directed near the posterior angles. *Scutellum* small, subtriangular, with a few fine punctures and sparse pubescence. *Elytra* a little longer than the width of the two together, moderately convex, rather vertically inclined from the humeral callus to the lateral margin especially for the anterior half of the length ; humeral angles rounded, the lateral margins narrowly bordered from the base to a little distance beyond the middle ; apical angles narrowly rounded ; punctuation coarse, rather sparse, and impressed more distinctly than that on the pronotum and head ; interspaces moderately smooth ; pubescence nearly as long as that on the pronotum but relatively more stout, sparse, suberect and greyish, and also different in that the hairs are directed backwards, in a longitudinally wavy fashion especially in the basal three-fourths of the elytron (Fig. 1, right half). *Underside* with mostly short and depressed pubescence and with fine to coarse and impressed punctuation ; the prosternal carinae (Fig. 3) almost straight and convergent towards the anterior margin where these come very close to each other ; punctuation on the pro- and mesosternum fine and impressed that on the metasternum coarse and impressed and fairly close. The abdominal lines complete, semicircular, extending beyond the middle of the first abdominal segment ; the pubescence on the terminal sternites of the abdomen relatively long, depressed and directed posteriorly. *Male genitalia* with a sub-transverse and well-developed basal piece (Fig. 4 and 5, *bp*), the long trabes (*t*), the elongate oval parameres (*pm*), each bearing a number of long and delicate setae ; the median lobe (*ml*) conical, about one-and-a-half times as long as wide, a little longer than parameres and acutely pointed at the apex ; the siphon (Fig. 6) distinctly long and narrow except for a short, expanded part (*s*) in the middle which is quite characteristic of the species, the siphonal capsule (*sc*) also elongate, its inner arm narrower than the outer one, the terminal part of the siphon with a thin, short and weakly chitinised filament which is usually projecting out. *Female genitalia* with sub-elongate genital plates (ix sternite) (Fig. 7, *gp*), each bearing a distinct papilla at the apex ; the spermatheca (Fig. 8, *st*) almost kidney-shaped, constricted a little beyond the median part ; the narrow, rather tubular, infundibulum (*i*) with an oblong membranous projection at the apex of the cornu (*cn*) which is quite rounded at the base near the ramus. The outlines of the paramera, the median lobe and the siphon in the male, and of the spermatheca in the female, are typical of the species and greatly helpful in its recognition.

Length 1.85—2.0 mm ; breadth 1.3--1.4 mm.

*Holotype*.—♂, INDIA ; Calcutta (West Bengal), Eden Garden, 6.--xii, 1957, feeding on *Rhopalosiphum nymphaeae* (L.), on water-plant,

(*A. P. Kapur* Coll.) in the Zoological Survey of India, Calcutta, Regd. No. 1308/H4A. (The genitalia dissected and mounted in Canada Balsam between two coverslips and pinned with the specimen). *Paratypes*: *Allotype*.—♀, with the same data as the holotype; in the Z.S.I. Collection. (The genitalia dissected and mounted as above). Other Paratypes.—♂, ♀, several examples as follows : INDIA : Calcutta, Eden Garden, feeding on *R. nymphaeae* (L.), on water-plants, 29.xi.1957 (1 ex.) ; 3-, 4-, 6-, 19, and 24.xii.1957 (4, 5, 28, 3 and 1 ex., respectively); 22.i.1959 (1 ex.) ; 4.xii.1959 (1 ex.) (all *A. P. Kapur* Coll.) ; 25.xi.1960 (2 exs.) (*S. Ali*) ; 30.xi.1962 (3 exs.) (*S. Ali* and *P. Singh*) ; Bansdhani, ca. 10 km. south of Calcutta, 14.i.1960 (2 exs.) (*A. R. Bhaumik*) ; mostly in Z.S.I. Collection ; Calcutta. (1 ex.), (no further data) in Riksmuseum, Stockholm. (In some cases the genitalia are dissected and mounted in the same manner as stated earlier.)

*Remarks*.—*Pullus pallidicollis* (Mulsant)<sup>1</sup> and *Pullus pyrocheilus* (Mulsant)<sup>2</sup> are two other species of the genus *Pullus* Mulsant that are quite commonly found in Calcutta but these are easily distinguishable from the presently described species by their colouration, especially on the pronotum which is light brown in the former species, and reddish-testaceous with a black, semi-circular median spot at the base in the latter species. There are also further differences in their colouration, and in the punctation and pubescence which are on the whole finer and shorter than is the case in *P. nymphaeus*. The only other species of the genus which comes close to the latter is *Pullus brunnescens* (Motschulsky)<sup>3</sup>, originally described from Ceylon but later recorded from other parts of Asia. This species is larger (2.54 mm. long), much lighter and uniformly reddish-testaceous to testaceous in colour. The two species are further distinguishable externally by the character of their pubescence, punctation and the shape of humeral calli. The pubescence in *P. brunnescens* is shorter, closer and relatively depressed ; the punctation is finer and the humeral calli less prominent than is the case in *P. nymphaeus*. In respect of the genitalic structure also there are some important differences between the two species. In the male, the paramera are narrow, the median lobe relatively wider and the siphon not expanded in the middle in *P. brunnescens* ; in the female of the latter the spermatheca is different in outline, its nodulus is narrow and emarginate at the base, whereas in the case of *P. nymphaeus* it is rounded. *Scymnus picescens* Gorham<sup>4</sup> is another species (found in southern India) which, on account of its piceous colouration, resembles *P. nymphaeus* to some extent but which can be distinguished from the latter by its smaller size (1.2 mm. long), close and strong punctation and short pubescence.

### III—SUMMARY

A new species of Lady-beetle, namely, *Pullus nymphaeus* Kapur and Munshi, is described from Calcutta. It was found feeding on the aphid, *Rhopalosiphum nymphaeae* (Linn.), on water-plants.

<sup>1</sup> & <sup>2</sup> Mulsant, M. E. *Ann. Soc. Linn. Lyon*, 1, pp. 280-282 (1853).

<sup>3</sup> Motschulsky, V. *Bull. Soc. Nat. Mosco*, 39, p. 425 (1866).

<sup>4</sup> Gorham. H. S. *Ann. Soc. ent. Belg.*, 38, p. 207 (1894).