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Anopheles punctulatus

Distinguishing Characters: The origin of the upper fork cell is more basal than the origin of the lower.

Wings with 4 medium sized, typical costal dark areas. And with numerous dark, small areas, and alternating with pale areas which are slightly larger.

Palpi with 3 dark bands on the apical pale half.

Proboscis apically pale.

Femur of front leg thickened in its basal third. The small tarsal segments of all legs with pale bands.

Described from material from Stephansort, (New Guinea) reared from larvae by R. Koch.

Female head with pale frontal tuft (Scheitelschopf). Gray scales on vertex, and dark scales on nape.

Antennae gray scaled.

Palpi dark as far as midpoint, the apical half pale with three dark bands. First segment pale (?). On the dorsal side of the second segment there are often a few pale scales anterior of the mid-point, basad the mid-point the second is customarily with a ring of pale scales but still with a dark ring at the end. The two pale apical segments bare at their bases each a prominent dark ring. Also there are two rings, at the end of the second and at the beginning of the third segment, very close to each other, joining even at the connection of the segments. Integument of the last palpal segment is paler than that of the first segment, still the integument on the next to the last segment is often significantly dark.

Length of the palpal segments: -.59 - 0.63 - 0.34 - 0.21.

The length of the palpal segments from Herbertshöhe: - 0.55 - 0.63 - 0.38 - 0.21.

The proboscis is dark on its basal half, with apically pale half, with a small dark fleck just basad of the labella.

Thorax with olive-brown area anterior the transverse suture. On many specimens there are white scales which are especially numerous around this olive-brown area.

The wings have on their costal margin four dark areas of uniform size which are separated by approximately the same sized pale intervening areas; on the costal in the basal part of the wing there are two or three small dark areas which can be fused together. The first of the typical dark areas reaches in almost its entire breadth to the first longitudinal vein. Posteriorly to the second typical dark area there are three to five dark spots on the first longitudinal wing vein, whereas on the subcosta there is simply a dark area of the same length as the costal dark area. Also posterior to the third typical dark area there are four dark spots on the first longitudinal wing vein. The somewhat shorter fourth dark area is strengthened by two or three spots on the upper branch of the first fourth forked cell. Beyond the fourth dark area the wing point is pale. Between the first and second dark areas there are a few dark dots which on the outermost margin of the costal may be connected with the second typical dark area and which then give an extension to the dark areas into the intervening pale areas. Collectively the longitudinal wing veins are covered with numerous dark spots with slightly larger intervening pale areas. On the petioles

of two and four the dark areas are close together and on the petiole of the second forked cell they are fused basally to the fork to form an extended dark area. On the sixth longitudinal wing vein there are five to seven such spots counting the marginal spot; infrequently there are only four.

Wing fringe pale at the apex of the wing, but dark at the level of the first forked cell.

The color of the pale areas of the wings is yellow becoming white from the basal end.

The first forked cell originates more basally than the second although on some specimens the origin is at the same level in both (for example a specimen from Herbertshöhe, April, 1900).

From the central cross vein the middle cross vein usually bends a bit more towards the apex than the upper cross vein, although in many specimens both of them are in the same line. The lower longitudinal vein may be double its length or more from the middle longitudinal vein.

The first branch of vein five is, as in A. leucosphyrus, shortly beyond the slope of the underpart of the central longitudinal cross vein strongly bowed. The fourth vein at the same place is bowed a bit anteriorly so that these two veins are at this place relatively far apart. Further on they become close together again.

Index of the longitudinal cross veins: 40.2 mm; of the fifth vein, 32 mm.

Halteres brown with pale stem.

Legs. The basal third of the female of the front legs, the apical ends of the tibiae of all legs are definitely enlarged. All parts with the exception of the small tarsal segments are with light dots on a dark background and with pale rings; the tarsal joints are marked in the following way: on the front legs all of the segments have pale rings; the second segment is many times entirely pale with only a pair of scarcely noticeably dark flecks on the upper surface. On the middle legs the tarsal segments have few and smaller pale bands; the second segment is often largely pale similar to the front legs. On the hind legs the first tarsal segment has often scarcely no pale coloration; the others are definitely banded but with small bands.

On the abdomen there are clumps of yellow and black scales on the ventral as well as dorsal surface of the next to the last segment, especially on the posterior margin (these scales point backwards or posteriorly); similarly there may be scales, although fewer in number, than the last segment. Single yellow scales are scattered principally over the last segment. Among the dark pairs of the genital lobes there are numerous yellow and dark scales. The remainder of the abdomen has pale pairs which are especially numerous on the posterior segments. The ventral side has a pair of pale area in the integument on each of the segments. On the dorsal side there are frequently a few pale scales along the midline which may well be the remnant on these specimens of a lost dorsal pale line.

MALE: The male is not characterized by anything in particular. The second palpal segment is distally pale and bears on its thickened apex a tuft of dark scales, which lie apically principally over the next segment. The two apical segments are pale with a stripe of dark scales on the undersurface and a dark ring on the base.

♀. Length of head and of proboscis 2.8 mm; wing 4.0 mm.

♂. Length of head and of proboscis 2.6 mm; wing 3.8.

Habitat: New Guinea (Stephansort); Bismark archipelago (Herbertshöhe on New Britain).

Remarks: In my first description of this species I have given the same range as above. If Theobald takes these results, and applies them to material from Sumatra and Borneo and applies my name to them, it must rest on a study or investigation. Since however, Theobald obtained the material which he assumes to be punctulatus from Taipang in the Straits Settlements, I take the liberty to doubt that he was dealing with the same species.

Before me I have some material from Sumatra which I at first thought was A. punctulatus. Since I have however, among a large collection of material from the Soenda Islands, been unable to find any specimens of this species, it would be a case in which there is a tremendous stretch of islands in which these species would be completely lacking. A closer investigation shows furthermore that the material from Sumatra could very well be separated specifically from A. punctulatus. Because of the striking similarity, the new species would be called A. deceptors.

Because of these experiences there is the suspicion that Theobald's specimens from Malaya also belong to this new species although I cannot speak with certainty about this because the two figures of the wings of the females which Theobald shows are different from it.

Has a photograph of punctulatus.