

A new species and a new combination in *Palpimanus* Dufour, 1820 from India (Aranei: Palpimanidae)

Новый вид и новая комбинация в роде *Palpimanus* Dufour, 1820 из Индии (Aranei: Palpimanidae)

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КЛЮЧЕВЫЕ СЛОВА: Araneae, пальпиманиды, описание, таксономический трансфер, Гирнар, заповедник.

ABSTRACT. A new species *Palpimanus narsinhmehtai* sp.n. (♂♀) is described from Gujarat, India. In structure of the copulatory organs, the new species resembles *P. schmitzi* Kulczyński, 1909 and *P. sogdianus* Charitonov, 1946 (in male and female characters, respectively). It nevertheless differs from both these species by a distinct shape of the accessory sclerites in the male bulb and by dissimilarly shaped receptacles. One new combination is proposed: *Palpimanus namratae* (Pillai, 2006) comb.n., ex *Otiathops* MacLeay, 1839. Detailed morphological description, diagnosis and illustrations of the copulatory organs of a new species are provided.

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РЕЗЮМЕ. *Palpimanus narsinhmehtai* sp.n. (♂♀) описан из штата Гуджарат, Индия. По структуре копулятивных органов новый вид напоминает *P. schmitzi* Kulczyński, 1909 и *P. sogdianus* Charitonov, 1946 (сходство, соответственно, с самцами первого и самками второго). Тем не менее, новый вид отличается от обоих указанных видов формой терминальных склеритов пальпы самца и несходными по форме семяприемниками самок. Предложена новая комбинация: *Palpimanus namratae* (Pillai, 2006) comb.n., из *Otiathops* MacLeay, 1839. Для описываемого вида приводятся диагноз, детали морфологии и иллюстрации копулятивных органов.

Introduction

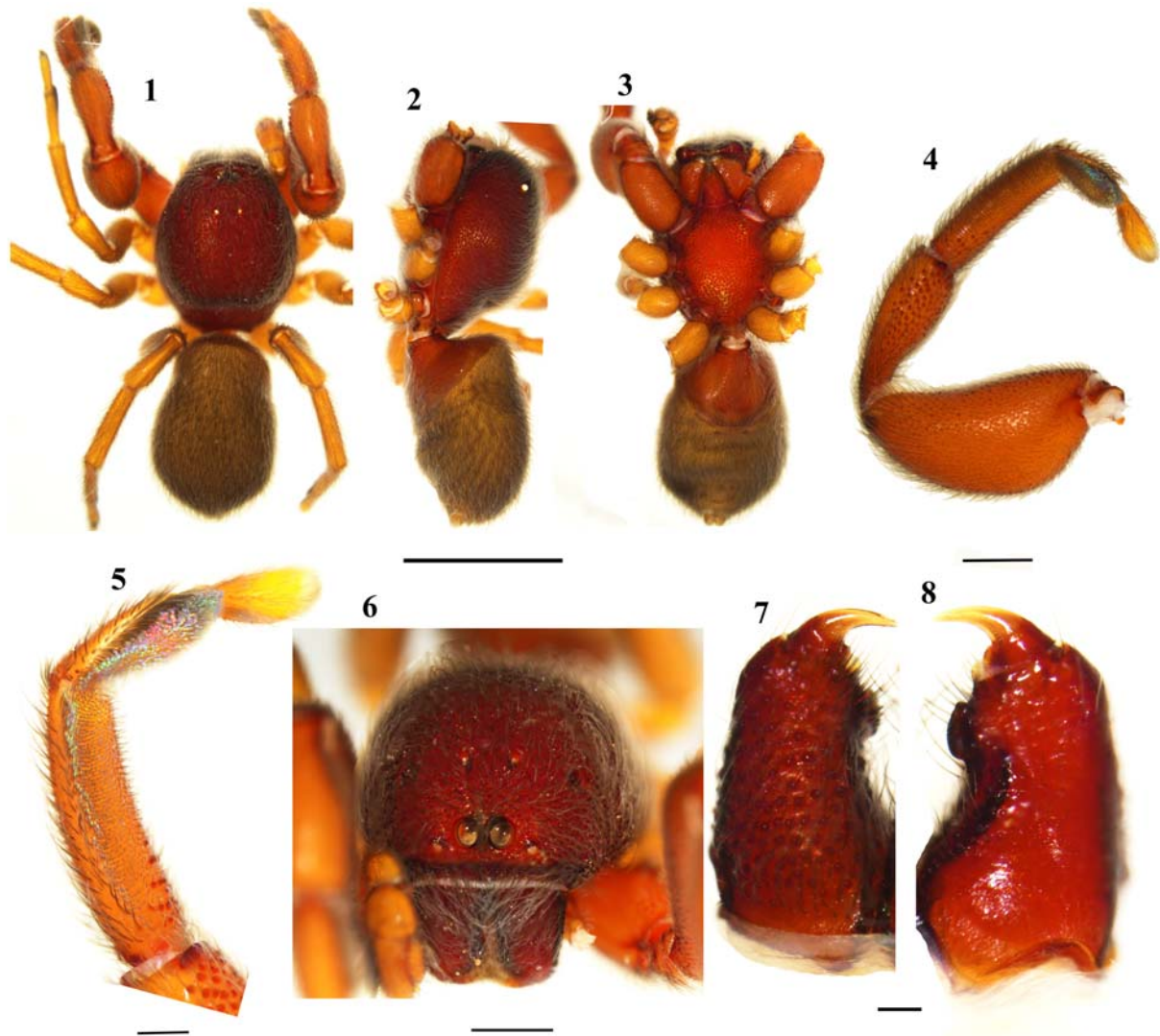
The genus *Palpimanus* Dufour, 1820 embraces currently 35 valid species in the world; majority of them

are known from Africa, southwest Asia and Mediterranean [WSC, 2021]. Only one species from this genus, namely *P. vultuosus* Simon, 1897, is known from India. This species was described based on female only, without any illustrations [WSC, 2021]. However, Platnick [1981] mentioned the absence of prolateral prong in the male palp of *P. vultuosus*, and put the species in the *vultuosus* group. Additionally, he stated about description of more species of this group from India in later study. Somehow, those species are still unknown. The aim of this paper is to describe a new *Palpimanus* species from India along with transfer of one species of *Otiathops* MacLeay, 1839 to *Palpimanus*.

Materials and methods

Specimens were studied using a Leica M205A stereomicroscope. All measurements are in millimetres (mm). Palp and leg segment lengths are given as follows: total [femur, patella, tibia, metatarsus (except palp), tarsus]. Description standard follows Platnick [1981] and Zonstein & Marusik [2019]. Drawings were made with an aid of a drawing tube attached to the microscope. Digital images were obtained by a Leica DFC2900 digital camera attached to Leica M205A stereo-microscope with the software package Leica Application Suite (LAS), version 4.5.0. The type specimens have been deposited in the reference collection of the Gujarat Ecological and Educational Research (GEER) Foundation, Gandhinagar, Gujarat.

Abbreviations (except for those decoded in the text and figure plates): ALE — anterior lateral eye, AME — anterior median eye, PLE — posterior lateral eye, PME — posterior median eye, I–IV — 1st to 4th legs.



Figs 1–8. *Palpimanus narsinhmehtai* sp.n. (holotype ♂): 1 — habitus, dorsal view; 2 — same, lateral; 3 — same, ventral; 4 — left leg I, prolateral; 5 — tibia and metatarsus of left leg I showing copula, prolateral view; 6 — habitus, frontal; 7 — chelicerae, dorsal; 8 — same, ventral. Scale bars: 1 mm (1–3); 0.5 mm (4, 6); 0.2 mm (5); 0.1 mm (7–8).

Рис. 1–8. *Palpimanus narsinhmehtai* sp.n. (♂ голотип): 1 — внешний вид, сверху; 2 — то же, сбоку; 3 — то же, снизу; 4 — левая нога I, пролатерально; 5 — голень и предлапка левой ноги I со скопулой, пролатерально; 6 — внешний вид, спереди; 7 — хелицера, сверху; 8 — то же, снизу. Масштаб: 1 мм (1–3); 0,5 мм (4, 6); 0,2 мм (5); 0,1 мм (7–8).

Taxonomy

Palpimanidae Thorell, 1870

Palpimanus Dufour, 1820

Type species: *Palpimanus gibbulus* Dufour, 1820

DIAGNOSIS. For diagnostic features of the genus see Platnick [1981].

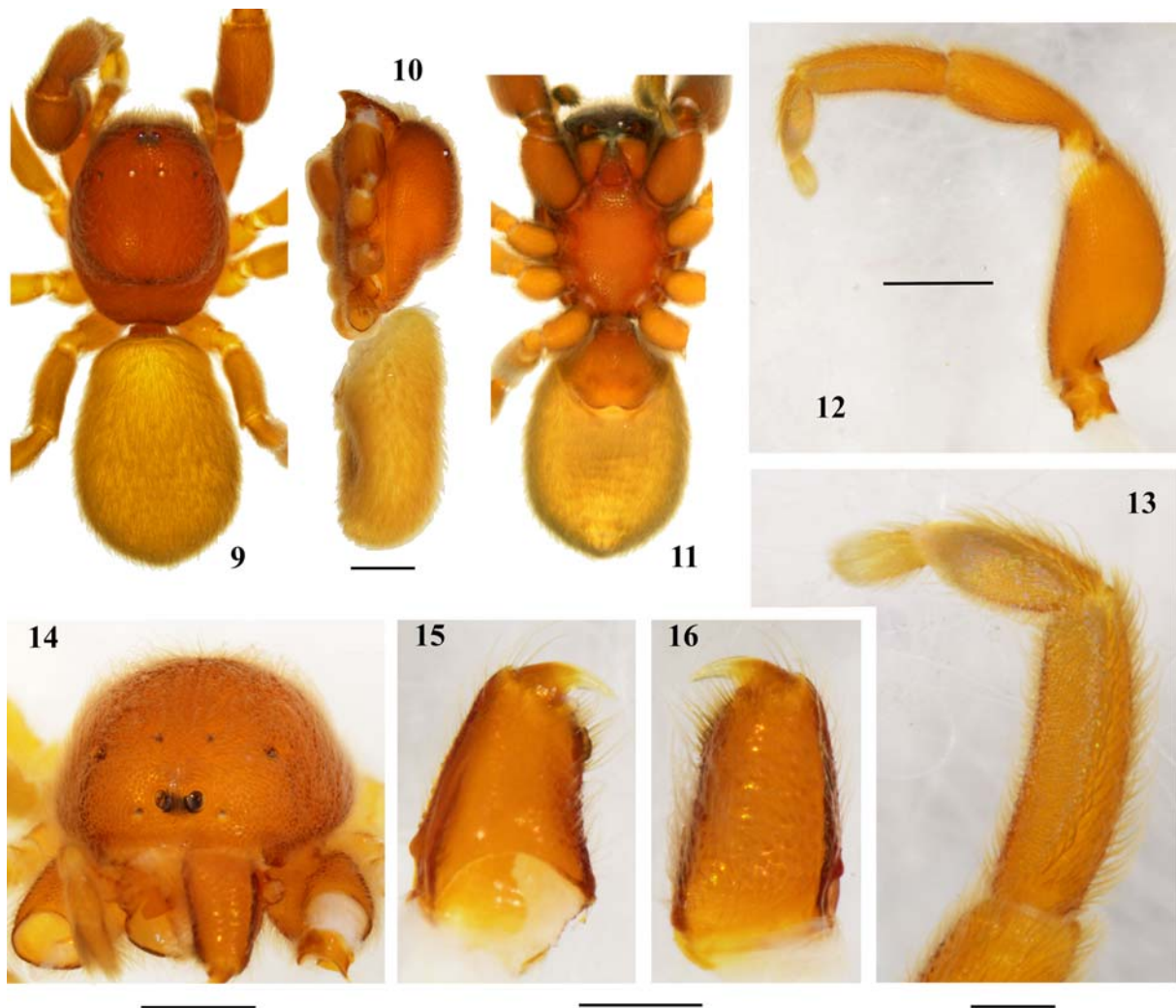
Palpimanus narsinhmehtai sp.n.

Figs 1–20.

TYPES. Holotype ♂ (GEER8114A): India, Gujarat, Junagadh, Girnar Wildlife Sanctuary, 21°30'18.21"N, 70°29'6.12"E, 188 m, 22.12.2020, N.K. Hun (by hand, from the bark). Paratype: ♀ (GEER8114B): same as holotype.

ETYMOLOGY. The specific epithet is dedicated to the great Indian poet saint, Narsinh Mehta. His belief in equality can be understood by his one of the famous poetry 'Vaishnav jan to', which became inspiration for Mahatma Gandhi.

DIAGNOSIS. Males somewhat resembles *Palpimanus schmitzi* Kulczyński, 1909 (by having broader retrolateral and median prong — see Platnick, 1981, fig. 8), but it can be easily differentiated by massive median prong (MP), with retroapical depression (highlighted by black dotted line in Fig. 18), and extending to prolateral region (EMP) of the tegulum (Figs 17–18); retrolateral prong (RP) evenly wide except narrowed tip directed at 12 o'clock position (Fig. 17); females resemble those of *P. sogdianus* Charitonov, 1946 (by the shape and orientation of endogyne — see Marusik & Guseinov [2003], fig. 34) but can be distinguished from them by kidney shaped receptacles (RE) with broader and longer posterior extension (PRE) (Fig. 20).



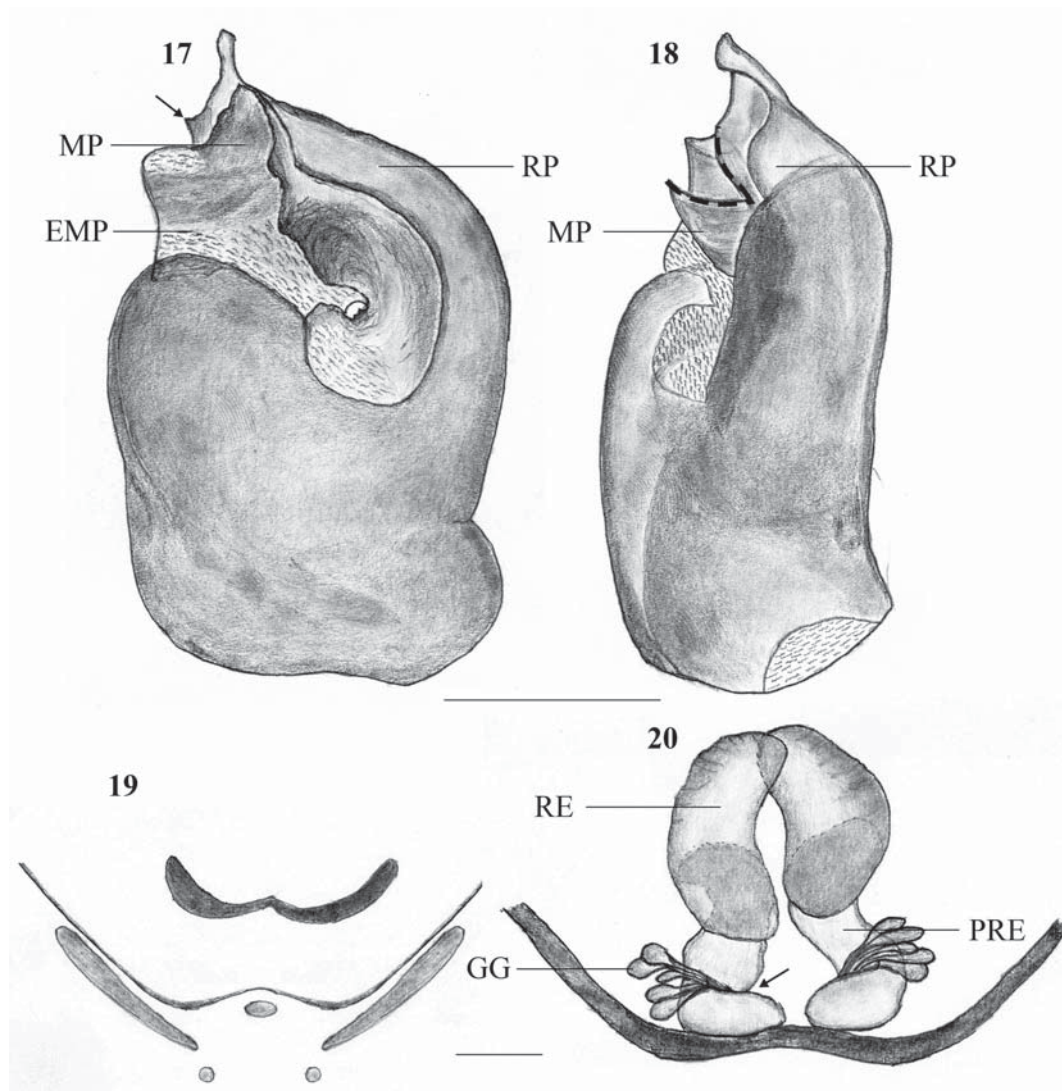
Figs 9–16. *Palpimanus narsinhmehtai* sp.n. (paratype ♀): 9 — habitus, dorsal view; 10 — same, lateral; 11 — same, ventral; 12 — right leg I, prolateral; 13 — tibia and metatarsus of right leg I showing scopula, prolateral; 14 — habitus, frontal; 15 — chelicerae, ventral; 16 — same, dorsal. Scale bars: 1 mm (9–11); 0.5 mm (12, 14); 0.2 mm (13); 0.1 mm (15–16).

Рис. 9–16. *Palpimanus narsinhmehtai* sp.n. (паратипе ♀): 9 — внешний вид, дорзально; 10 — то же, латерально; 11 — то же, вентрально; 12 — правая нога I, пролатерально; 13 — голень и предлапка правой ноги I со скопулой, пролатерально; 14 — внешний вид, спереди; 15 — хелицера, вентрально; 16 — то же, дорзально. Масштаб: 1 мм (9–11); 0,5 мм (12, 14); 0,2 мм (13); 0,1 мм (15–16).

According to the short imageless original description of *P. vultuosus*, this species differs from the new species by a much darker overall coloration and presence of long whitish hairs on the sternum (undeveloped in *P. narsinhmehtai* sp.n.).

DESCRIPTION. Male (Figs 1–8): Carapace, sternum, chelicerae, endites, leg I and abdominal scuta with cherry red in color (Figs 1–8). Carapace round, globular, with rugose surface (Fig. 1A–B); surface of chelicerae and sternum with pits (Figs 3, 7); clypeus with longer setae (Fig. 6); chelicerae with a broad keel like tooth and prolateral depression (Fig. 8); leg I with tubercles on ventral surface of femur, patella and tibia (only on proximal region), metatarsus and tarsus I occupied by scopula with iridescent tip proventrally (Figs 4–5); metatarsi II–IV with bunch of blackish stout setae ventroapically; legs II–IV and palp segments pale yellowish. Abdomen brownish, covered with blackish

setae (Figs 1–3). Body length 4.32. Carapace 2.09 long, 1.75 wide, 1.07 high. Abdomen 2.23 long, 1.53 wide, 1.30 high. Eye sizes and interdistances: ALE 0.06, AME 0.15, PLE 0.08, PME 0.05; AME–AME 0.06, AME–ALE 0.10, ALE–ALE 0.52, ALE–PLE 0.42, AME–PME 0.37, PME–PME 0.23, PME–PLE 0.33, PLE–PLE 0.95. Measurements of palp and legs: palp 1.51 [0.52, 0.17, 0.35, 0.47], I 5.47 [1.58, 1.16, 1.68, 0.57, 0.48], II 4.17 [1.32, 0.76, 0.93, 0.65, 0.51], III 3.45 [1.05, 0.59, 0.76, 0.64, 0.41], IV 4.63 [1.47, 0.73, 1.09, 0.89, 0.42]. Palp (Figs 17–18): tibia bulky, 1.3 times broader than patella and cymbium; tegulum slightly longer than wide, with longer retrolateral prong (RP) with sharply pointed proapical extension (marked by an arrow) (Fig. 17); median prong (MP) of tegulum massive, extended to proapical region of the tegulum, retroapical depression (highlighted by black dotted line in Fig. 18) in median prong (Figs 17–18).



Figs 17–20. *Palpimanus narsinhmehtai* sp.n.: 17 — male left copulatory bulb, ventral view (sharply pointed proapical extension marked by an arrow); 18 — same, retrolateral; 19 — female epigastric area, ventral; 20 — endogyne, dorsal. Scale bars: 0.2 mm. Abbreviations: EMP — extension of median prong, GG — grape-shaped gland, MP — median prong, PRE — posterior extension of receptacles, RE — receptacle, RP — retrolateral prong.

Рис. 17–20. *Palpimanus narsinhmehtai* sp.n.: 17 — копулятивный орган левой пальпы самца вентрально (стрелкой указан заостренный вырост); 18 — то же, ретролатерально; 19 — эпигастральная область самки, вентрально; 20 — эндогина, дорсально. Масштаб, 0,2 мм. Сокращения: EMP — выступ медиального выроста, GG — гроздевидная железа, MP — медиальный вырост, PRE — расширенное основание рецептакулы, RE — рецептакула, RP — ретролатеральный вырост.

Female (Figs 9–16): As described for the male except as follows: Body length 7.03. Carapace length 3.37, width 2.49, height 1.52. Abdomen length 3.66, width 2.55, height 1.64. Eye diameter: ALE 0.09, AME 0.18, PLE 0.10, PME 0.06. Eye interdistances: AME–AME 0.07, AME–ALE 0.13, ALE–ALE 0.64, ALE–PLE 0.61, AME–PME 0.30, PME–PME 0.39, PME–PLE 0.44, PLE–PLE 1.39. Measurements of palp and legs: palp 1.51 [0.28, 0.21, 0.33, 0.53], I 6.22 [2.14, 1.58, 1.37, 0.83, 0.35], II 5.00 [1.67, 0.91, 1.16, 0.68, 0.58], III 4.67 [1.41, 0.89, 0.95, 0.88, 0.54], IV 6.14 [1.87, 1.06, 1.58, 1.27, 0.36]. Copulatory organs (Figs 19–20): endogyne weakly-sclerotized; receptacles (RE) kidney shaped, with elongated posterior extension (PRE) along with basolateral fold (marked by an arrow) (Fig. 20); grape-shaped glands (GG) arise from lateral fold with thin stalk

like structure (Figs 19–20). Epigastral scutum with short petiolar tube with transvers wrinkles, and bow-shaped sclerotized line; postgastral scutum not solid, characterized by 3 pairs of scuta: single pair of stripe-like scuta along book-lung slit and 2 pairs of sigilla-like scuta (one pair in concavity and one pair posteriorly) (Figs 11, 19).

DISTRIBUTION. Known from the type locality only.

Palpimanus namratae (Pillai, 2006) **comb.n.**

Otiotrops namratae Pillai, 2006: 134, figs. 1a–g (♂♀, from Bhavnagar in Gujarat, India; not examined).

Pillai [2006] stated that the type specimens of this species were deposited at Zoological Survey of India, Southern Region (ZSISR), Chennai (Registration No. In/sp/1 & 2 dat-

ed 24.05.2006). However, ZSISR doesn't have the specimens with such series (in registration no.). It may be an indication that author might not have deposited the specimens at the stated museum. On the other hand, the illustrations provided by the author indicate following characters of the species: small PMEs, separated far from each other (nearly five times of their diameter — see Pillai, 2006, fig. 1a); endogyne with posterior extension or duct [Op. cit., fig. 1d]; bulb with clear retrolateral prong [Op. cit., fig. 1e–f]. These characters clearly justify that the species is actually belongs to the *Palpimanus* and not to *Otiotrops*, a genus known exclusively from the Neotropics. Hence, it is safe to transfer the species to *Palpimanus*.

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