PSENINI FROM SRI LANKA (HYMENOPTERA, SPHECIDAE, PEMPHREDONINAE)

by

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With 16 text-figures

Abstract

This review of the Psenini from Sri Lanka is based mainly on material collected under the auspices of the "Biosystematic Studies of the Insects of Ceylon" project of the Smithsonian Institution, Washington, D.C. Three new forms are described: *Psenulus genalis* and *P. maculatus keiseri* from Sri Lanka, *P. carinifrons taprobanensis* from Sri Lanka and South India. Supplementary descriptions of previously recorded species are also given.

Thus far four species were recorded from Sri Lanka (formerly Ceylon), namely *Psen (Psen) matalensis, Psen (Psen) nitidus, Psenulus ceylonicus* and *Psenulus nietneri,* seven specimens in total. During the recent "Biosystematic Studies of the Insects of Ceylon" project of the Smithsonian Institution, Washington, D.C., 51 fresh specimens were collected. In addition I was able to study 19 Psenini from various other museums, partly received through the kind offices of Dr. K. V. Krombein, Washington, D.C., and Prof. Dr. J. van der Vecht, Putten, Netherlands. One new *Psenulus* and two new subspecies of *Psenulus* are now described from Sri Lanka. The new subspecies *Psenulus carinifrons taprobanensis* occurs both in South India and in Sri Lanka, seven specimens being recorded from Sri Lanka, four from the continent.

I am grateful to the Naturhistorisches Museum, Basle (NMB; via J. van der Vecht), British Museum (Natural History), London, C. R. Vardy (BM), National Colombo Museum, Colombo (NCM; via K. V. Krombein and J. van der Vecht), Idaho University, Moscow, Idaho, A. R. Gittins (IU), Lund University, Lund (LU; via J. van der Vecht), Oregon State University, Corvallis, G. R. Ferguson (OSU), Entomology Research Institute, Ottawa, L. Masner and C. M. Yoshimoto (CNC), H. and M. Townes, Ann Arbor (HT) and the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM) for the loan of material. My special thanks are due to Dr. Karl V. Krombein, Principal Investigator of the project, for entrusting the study of the Psenini to me. Mrs. C. van Driel-Murray kindly read and corrected the English text.

The following species are at present known from Sri Lanka:

Psen (*Psen*) *nitidus nitidus* Van Lith	9 ♀, 3 ♂
* *Psen* (*Psen*) *elisabethae madrasiensis* Van Lith	1 ♀
Psen (*Psen*) *matalensis* Turner	35 ♀, 5 ♂
* *Psenulus genalis* sp. nov.	2 ♀
Psenulus nietneri Van Lith	1 ♀
* *Psenulus puncticeps* (Cameron)	1 ♀
* *Psenulus exiguus* Van Lith	2 ♀
* *Psenulus maculatus keiseri* subsp. nov.	4 ♀
Psenulus ceylonicus Van Lith	6 ♀
* *Psenulus pulcherrimus* (Bingham)	1 ♂
* *Psenulus carinifrons taprobanensis* subsp. nov.	4 ♀, 3 ♂

All these species except *P. nietneri* are represented in the material recently collected for the Smithsonian Institution. Those marked with an asterisk are new to the fauna of Sri Lanka.

Psen matalensis, Psenulus ceylonicus and *Psenulus maculatus keiseri* are probably endemic. *Psenulus genalis* and *Psenulus nietneri* are known from Sri Lanka only, but the number of specimens is too small to enable any conclusions to be drawn. Most of the material has been collected in the southern half of the island. Only twelve males have been taken against 65 females; the males of three species and one subspecies, all *Psenulus*, are still unknown.

Psen (Psen) nitidus nitidus Van Lith

Van Lith, 1959: 28—30 (Java, Krakatau, Bangka, Sri Lanka); 1968: 105—106 (South India, Sumatra). Bohart & Menke, 1976: 166.

New records from Sri Lanka: Western Province, Colombo District, 1 ♀, Kalatuwawa Reservoir, 300 ft, 19 Sept. 1970, O. S. Flint Jr.; 1 ♀, Labugama Reservoir Jungle, 13—14 Oct. 1973, K. V. Krombein, P. B. Karunaratne, P. Fernando, J. Ferdinando; 1 ♀, Labugama Reservoir, 16 Febr. 1975, K. V. Krombein, P. B. Karunaratne, P. Fernando, S. Karunaratne (USNM). Central Province, 1 ♀, Katugastota, 1600 ft, 31 Aug. 1967, P. B. Karunaratne (CNC); Kandy District, 1 ♀, Kandy, Peak View Motel, 1800 ft, 15—24 Jan. 1970, Davis and Rowe (USNM); 1 ♂, Kandy, Udawattekelle Forest, 23 Febr. 1974, P. J. Chandler (BM); Matale District, 1 ♀, Enselwatta, above 2500 ft elevation, 19—20 Oct. 1976, G. F. Hevel, R. E. Dietz, S. Karunaratne, D. W. Balasooriya (USNM). Southern Province, Galle District, 2 ♀ and 2 ♂, Kanneliya Jungle, 11—16 Jan. 1975, one of the ♂ taken at white light, K. V. Krombein, P. B. Karunaratne, P. Fernando, N. V. T. A. Weragoda (USNM).

Bingham (1897) recorded a female from Pundaloya which he identified as *Psen orientalis* Cameron but which was later (Van Lith, 1959) recognized as *P. nitidus*. The occurrence of the species in Sri Lanka has now been amply confirmed.

The nominate subspecies is also known from South India and has been found as far eastward as Java. There seems to be no difference between the material from

Sri Lanka and that from Malang, Java, the type-locality. The labrum and the greater part of the mandibles are reddish in the female only, in the male these parts are dark.

Psen (Psen) elisabethae madrasiensis Van Lith

Van Lith, 1965: 31—32 (*Psen* (*Psen*) *elisabethae* subsp.); 1968: 107 (*Psen* (*Psen*) *elisabethae madrasiensis*; South India, Madras State). Bohart & Menke, 1976: 166.

First record from Sri Lanka: Sabaragemuwa Province, 1 ♀, Belihuloya, Ougaldown Estate, 4000 ft, 6 Sept. 1928 (NCM).

The petiole of this female is 5.8 times as long as wide in the middle. In the females from Madras — Nilgiri Hills and Anamalai Hills — the petiole is about five times as long as broad.

The nominate subspecies is found in Java and Sumatra.

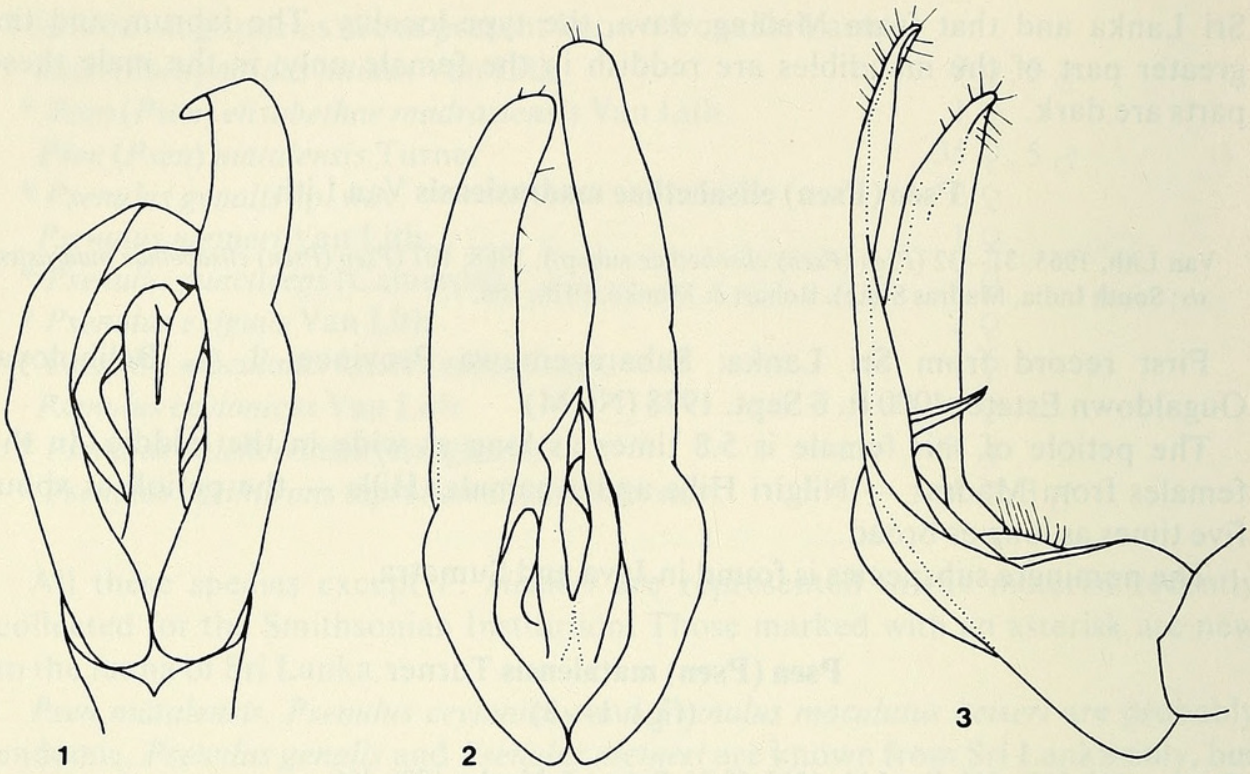
Psen (Psen) matalensis Turner
(figs. 1—3)

Turner, 1912: 362—363. Van Lith, 1965: 55-56. Bohart & Menke, 1976: 166.

Two females and one male have earlier been recorded from Sri Lanka, Matale, 2000 feet (Turner, 1912; Van Lith, 1965).

New records from Sri Lanka: Central Province, Kandy District, Kandy, Udawattakele (Sanctuary), 2100 ft, 1 ♀, 11 Febr. 1975, No. 21175A, K. V. Krombein; 10 ♀, 9—13 Febr. 1975, K. V. Krombein, P. B. Karunaratne, P. Fernando, S. Karunaratne; 8 ♀, 5—15 July, 20—30 July and 2—13 Aug. 1976, S. Karunaratne; Udawattakele, 1700 ft, 2 ♀, 29—30 May 1976, 1800 ft, 3 ♀, 3—5 June 1976, K. V. Krombein, P. B. Karunaratne, S. Karunaratne, D. W. Balasooriya (USNM); Nuwara Eliya District, 1 ♀ and 2 ♂, Nuwara Eliya, 25 April 1923; 2 ♀, Nuwara Eliya, Elk Plains, 5 May 1923 (NCM); 1 ♂, Kanda-ela Reservoir, 5—6 mi southwest Nuwara Eliya, 6200 ft, 10—21 Febr. 1970, Davis and Rowe; 1 ♀, Ohiya, 5500 ft, 1 June 1976, K. V. Krombein, S. Karunaratne, D. W. Balasooriya (USNM); 1 ♀, Hakgala, 9 May 1927 (NCM). Sabaragamuwa Province, Balangoda, 1 ♀, 7 June 1935 (NCM). Southern Province, Galle District, 1 ♀, Kottawa Forest Reserve, Hiniduma, 11 March 1972, K. V. Krombein and P. B. Karunaratne; 2 ♀, Kanneliya Jungle, 13—16 Aug. 1972, K. V. Krombein and P. B. Karunaratne (USNM). 1 ♂, without data (NCM).

Female. — Extent of red colour on gaster somewhat variable. Hind margin of first tergite usually red on apical sixth of segment. Second tergite with large lateral red marks and red sides, in one case almost entirely red. Second sternite entirely, or basal ⅔, red. Ventral plate of petiole entirely red or with red margin only. In fresh specimens legs deep black except for fore and mid tarsi and foreside of fore and mid tibiae. In some of the females second recurrent vein of fore wings interstitial instead of ending in third submarginal cell. In one case this vein interstitial in one wing only. Petiole slightly over 1½ times length of first tergite, in dorsal aspect.



Figs. 1—3. *Psen* (*Psen*) *matalensis* Turner, ♂, genitalia, dorsal, posterior and lateral aspect.

Male. — At least fore and mid legs more reddish-brown than in female. In one of the two males from Nuwara Eliya second tergite almost entirely red. Sternites 3—4 apically with golden-brown fasciculate hairs.

Genitalia (figs. 1—3) pale brown; stipes long, no distinct membraneous extension on inner side of apical part, volsellae long.

This seems to be an endemic species.

Psenulus genalis sp. nov.
(figs. 4—9)

Female. — Length about 5 mm. Head and thorax black; mandibles before apex reddish, palpi yellowish-brown. Underside of antennae including scape yellowish-brown, dorsal side dark brown. Femora except apices black, fore and mid tibiae and tarsi yellowish-brown, mid tibiae of paratype with black streak on outer side. Hind tibiae black with yellowish-brown base, tarsal segments 2—4 brown. Petiole including ventral plate, first tergite except for narrow reddish hind margin and sternites 3—6 or 4—6 black, remaining parts of gaster dark red. Veins of wings blackish.

Clypeus dull, broad anterior margin depressed and shining, medially narrowly protruding, not distinctly emarginate or bidentate (fig. 4). Frontal carina broadened between antennae into an elongated lozenge. This lozenge dorsally reaches depression of anterior ocellus, ending below in a short transverse carina (fig. 4). Frons densely rugoso-punctate, vertex punctate, interstices a few times size of punctures. Occipital carina ending below in hypostomal carina, dorsally strongly crenulate (fig. 5). Sides of head with sharp oblique carina, originating on vertex and ending near mandibles (fig. 6). Genae with sharp transverse carinae on

either side of oblique carina. Upper part of sides of head densely punctate and striato-punctate. Antennae short, clavate, third segment almost 1½ times as long as broad at apex, segments 4—8 about quadrate, segments 9—11 broader than long, segment 12 more than 1½ times as long as broad at base.

Pronotal corners rounded. Scutum shining, distinctly punctate, interstices from once to twice as large as punctures. Prescutal sutures on posterior half not sharply defined, almost reaching hind margin. Scutellum shining, sparsely punctate. Metanotum finer, more densely punctate. Enclosed area of propodeum shining, much concave with a few lateral oblique carinae (fig. 7), central part wide. Propodeum dorsally with irregular, very fine oblique striae, lower half more coarsely irregularly reticulato-carinate. Longitudinal groove on back of propodeum reduced to two large alveoles, which are distinctly separated. Propodeum postero-laterally with broad alveolate band. Sides of propodeum posteriorly coarsely reticulato-carinate, anteriorly finely striato-punctate. Mesopleura shining, finely punctate, interstices slightly smaller to slightly larger than punctures. Mesosternum laterally somewhat rugoso-punctate, medially with short transverse rugae. Anterior plate of mesepisternum weakly rugoso-punctate. Anterior oblique suture foveolate, widened dorsal part with a few transverse carinae. Second submarginal cell dorsally open, upper side about $^2/_5$ or $^1/_3$ of lower abscissa. First recurrent vein ending in second submarginal cell near RS, second recurrent vein ending well in third submarginal cell (fig. 8). Petiole almost cylindrical, at least 1½ times as long as first tergite in dorsal aspect, sides slightly flattened, anteriorly a short latero-dorsal carina. First tergite much convex in lateral view (fig. 9). Tergites shining, minutely punctate, no distinct pygidial area. Sternites slightly stronger punctate.

Pubescence whitish, longer on vertex, on face and pronotum more silvery, mostly appressed. Margins of sternites 2—3 with very short hairs, margins of sternites 4—5 with some long, stiff, whitish hairs. Sixth sternite densely pale golden pubescent. Epicnemial areas below with patch of dense, short, yellowish pubescence. Petiole with latero-dorsal row of very fine and very short hairs, laterally and ventrally a few long erect hairs.

Male unknown.

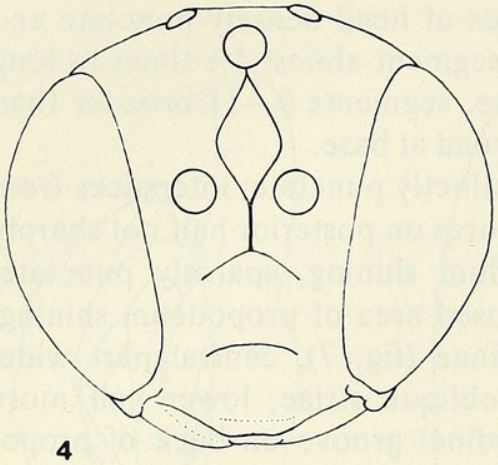
Sri Lanka: 1 ♀, holotype, Northern Province, Mannar District, 0.5 mi northeast Kokmotte Bungalow, Wilpattu National Park, 21—25 May 1976, K. V. Krombein, P. B. Karunaratne, S. Karunaratne, D. W. Balasooriya; 1 ♀, paratype, Southern Province, Hambantota District, Palatupana Tank, 3—4 Febr. 1975, Malaise trap, K. V. Krombein, P. B. Karunaratne, P. Fernando, E. G. Dabrera (USNM).

P. genalis is closely related to *P. yoshimotoi* Van Lith (1969) from Borneo, which has the same oblique carina on the sides of the head. However, its petiole has no dorsal carinae and the second submarginal cell is not triangular.

Psenulus nietneri Van Lith

Van Lith, 1972: 167—168, ♀ (Sri Lanka).

The single female known is labelled "Ceylon, coll. Nietner" (ZMB), no further data. Closely related to *P. puncticeps*. No fresh material collected.



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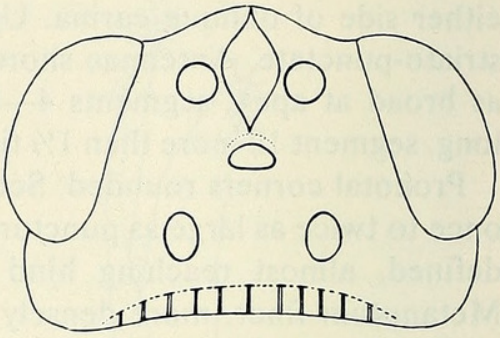

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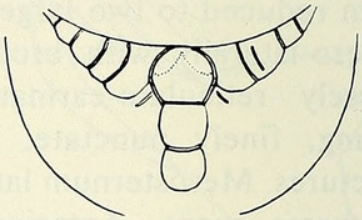

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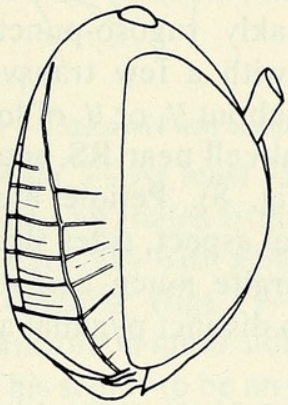

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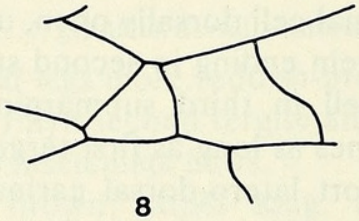

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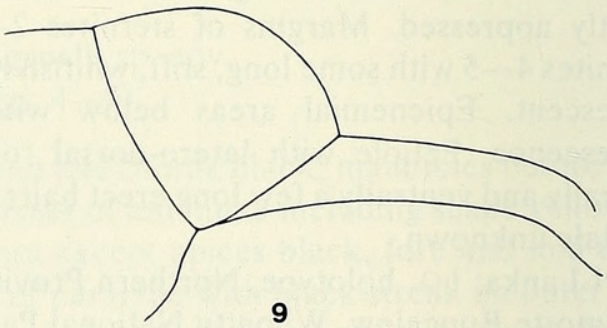

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Figs. 4—9. *Psenulus genalis* sp. nov., ♀, holotype, 4—6; head in frontal, dorsal and lateral aspect; 7, propodeum, dorsal aspect; 8, second and third submarginal cells of fore wing; 9, petiole and first gastral tergite.

Psenulus puncticeps (Cameron)

Cameron, 1907: 91 (*Psen puncticeps*; Bombay, India). Rohwer, 1923: 595—596 (*Diodontus antennatus*; Singapore). Van Lith, 1962: 44—46 (*Psenulus antennatus*; Malaya, Java, Bali); 1973: 136—137 (*Psenulus puncticeps*; Nepal); 1976: 99 (Laos, Flores). Bohart & Menke, 1976: 173.

First record from Sri Lanka: Northern Province, 1 ♀, Vavuniya District, Parayanalankulam Irrigation Canal, 25 mi northwest Medawachchiya, 100 ft, 20—25 March 1970, Davis and Rowe (USNM).

This female is very similar to specimens from Java, but first gastral tergite red, outer side of mid tibiae and base of hind tibiae more whitish than yellowish. Antennae reddish, flagellum darkened dorsally. Vertex distinctly punctate, between ocelli and oculi moreover distinctly striate.

P. puncticeps occurs in South India as well. I have seen a female from Nilgiri Hills, Moyar Camp, 2900 ft, May 1954, P. S. Nathan (OSU, ex collection G. R. Ferguson).

Psenulus exiguus Van Lith

Van Lith, 1976: 99—101, ♀ and ♂ (Laos, Malaya).

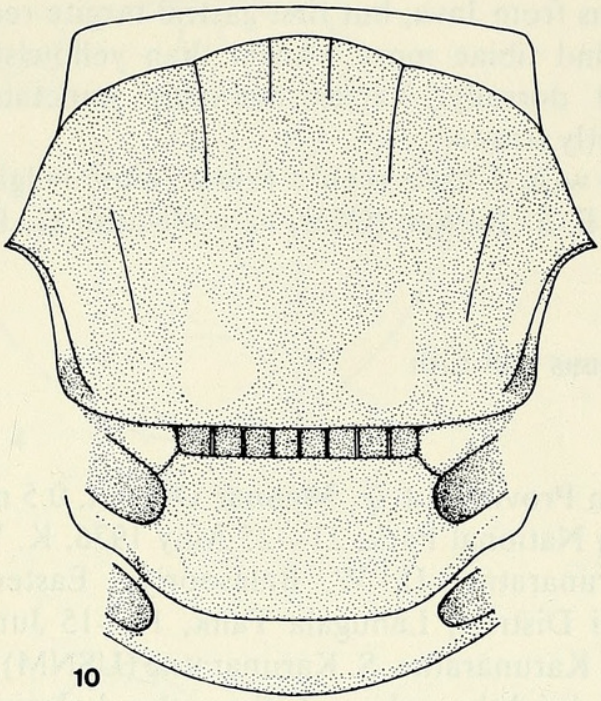
First records from Sri Lanka: Northern Province, 1 ♀, Mannar District, 0.5 mi northeast Kokmotte Bungalow, Wilpattu National Park, 21—25 May 1976, K. V. Krombein, P. B. Karunaratne, S. Karunaratne, D. W. Balasooriya. Eastern Province (southern part), 1 ♀, Amparai District, Lahugala Tank, 14—15 June 1976, Malaise trap, K. V. Krombein, P. B. Karunaratne, S. Karunaratne (USNM).

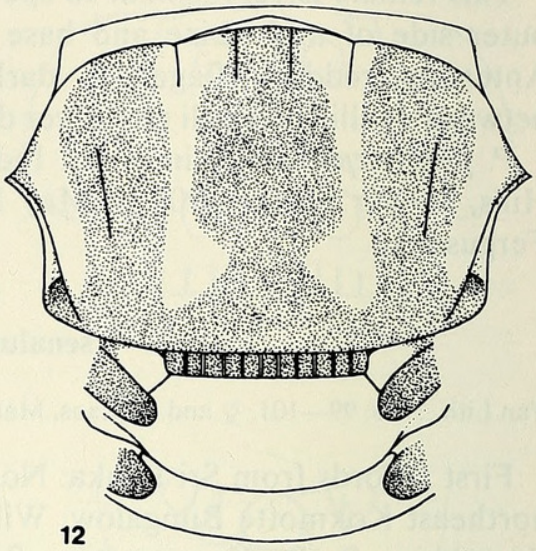
These females are somewhat more brightly coloured than the holotype described from Laos. Pronotal tubercles yellowish-white instead of brownish-yellow. Fore and mid tibiae not yellowish-brown but distinctly yellowish-white on outer side, also basitarsi yellowish-white. Hind basitarsus yellowish-brown, tarsal segments 2—4 dark brown. Petiole including ventral plate, greater part of first tergite and of fourth sternite black. Petiole more slender. Length 5.5—6 mm.

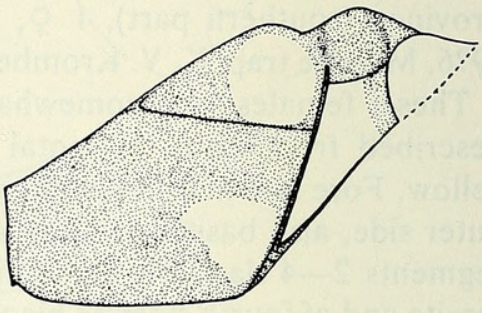
P. exiguus is very similar to *puncticeps* but is much smaller (*puncticeps* length 7—7.5 mm) and its gaster is more slender.

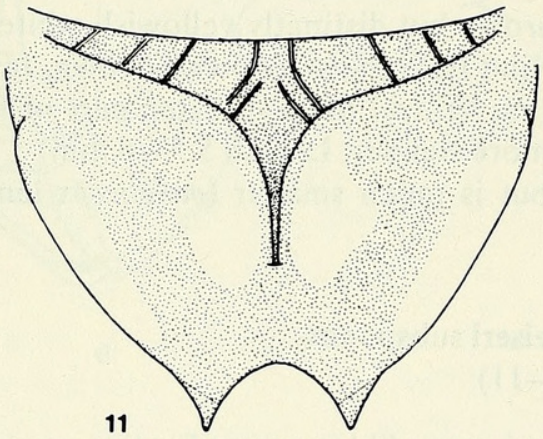
Psenulus maculatus keiseri subsp. nov.
(figs. 10—11)

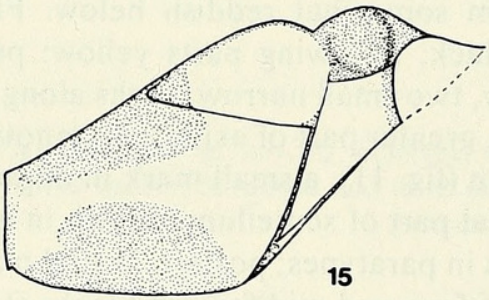
Female. — Length about 8 mm. Head black; mandibles except for tips, scape of antennae except for small black spot dorsally, underside of pedicel and of flagellum yellow, apical half of flagellum somewhat reddish below. Flagellum dorsally dark brown. Thorax (fig. 10) black, following parts yellow: pronotum dorsally, pronotal tubercles, tegulae partly, two small narrow marks along tegulae, two triangular marks in front of scutellum, greater part of axillae, metanotum, four large oblong marks on back of propodeum (fig. 11), a small mark in upper corner of anterior plate of mesepisternum. Central part of scutellum reddish in holotype, black or with small irregular yellow marks in paratypes; postero-lateral margins of scutellum more or less yellow. Basal ⅔ of fore and mid femora black, at least on posterior surface, on foreside at least a narrow yellow streak; trochanters, tibiae and tarsi of fore and mid legs yellow. Hind trochanters mostly black, dorsal half of femora black with reddish median line above, lower half of femora yellow. Hind tibiae and tarsi reddish-brown, underside of tibiae slightly darkened in holotype, more distinctly brown in paratypes which have also bases of hind tarsal segments brown. Petiole with yellowish-red base, apical half brown in holotype, almost black in paratypes. Gastral segments reddish, base of first tergite dorsally brown.

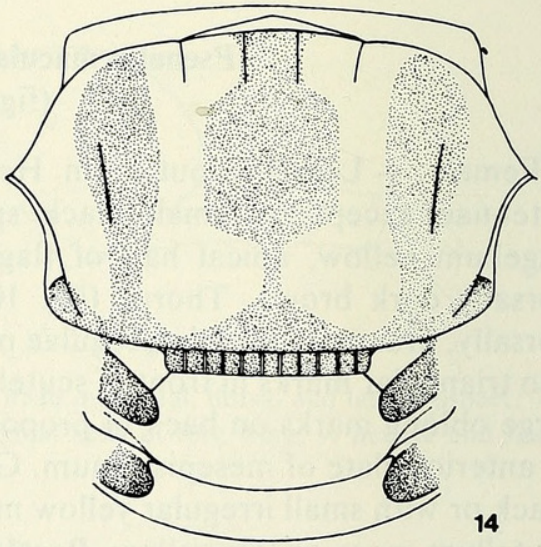












Figs. 10—11. *Psenulus maculatus keiseri* subsp. nov., ♀, holotype, thorax, dorsal aspect, propodeum, posterior aspect. Figs. 12—15. *Psenulus ceylonicus* Van Lith, ♀. 12—13, usual colour form, thorax, dorsal aspect, mesopleura, lateral aspect; 14—15, same parts of paler form from Uda Walawe.

Clypeal margin distinctly bidentate. Interantennal carina sharp, a transverse carina below antennae. Frons and vertex very finely punctate, scutum, scutellum and mesopleura finely punctate, interstices mostly a few times size of punctures.

Base of hind tibiae with three long spines on outer side. First recurrent vein

ending in first, second recurrent vein ending in third submarginal cell.

Pubescence on face and temples silvery, mostly appressed, on vertex and on thorax whitish.

Male unknown.

Sri Lanka: Southern Province, 1 ♀, holotype, Tanamalwila, 7 Jan. 1954, F. Keiser (NMB), 1 ♀, paratype, Katagemuwa, 26 March 1935 (NCM). Northern Province, Mannar District, 1 ♀, paratype, 0.5 mi northeast Kokmotte Bungalow, Wilpattu National Park, 21—25 May 1976, 1 ♀, paratype, same locality, Malaise trap, 22—25 May 1976, K. V. Krombein, P. B. Karunaratne, S. Karunaratne, D. W. Balasooriya (USNM).

P. maculatus keiseri is easily recognized as a representative of the *tuberculifrons* group because of the three long spines on the base of the hind tibiae. It shows the same structure and sculpture as the nominate form from Malaya (Van Lith, 1962). The colour-marking, however, is somewhat different. The underside of the antennae is completely yellow or yellowish-red, at most the underside of the last segment is darkened. The axillae are more yellow whilst the fore and mid femora are darker than in the nominate subspecies. As in the latter form, the yellow marking of the scutellum is subject to variation. The base of the petiole is much paler.

Psenulus ceylonicus Van Lith
(figs. 12—15)

Van Lith, 1972: 195 (Sri Lanka; Kandy). Bohart & Menke, 1976: 172.

New records: Sabaragamuwa Province, 2 ♀, Belihuloya, 15—20 July 1968, P. B. Karunaratne (CNC); 1 ♀, Ratnapura District, Uda Walawe, 300 ft, in scrub-thorn forest, 1 Aug. 1973, Malaise trap, Ginter Ekis (USNM). Western Province, 1 ♀, Colombo District, Padukka-Ingiriya Road, Kuruna Timber Reserve, 18 Jan. 1975, K. V. Krombein, P. B. Karunaratne, P. Fernando, N.V.T.A. Weragoda (USNM).

In the female from Uda Walawe the yellow marking on the scutum is more extended (fig. 14). Moreover, a large yellow mark behind the anterior oblique suture is connected with a smaller yellow mark along the hind margin of the mesopleuron (fig. 15). The usual form is somewhat darker (figs. 12—13). As a rule the first recurrent vein of the fore wings is about interstitial; in the female from Kuruna Timber Reserve this vein ends distinctly in the first submarginal cell. Hind margin of sternites 4—5 densely yellowish pubescent.

Male unknown.

P. ceylonicus was described after two females from Kandy and is probably endemic. It is the most western representative of the group of *P. interstitialis*, which group extends eastwards to the Solomon Islands.

Psenulus pulcherrimus (Bingham)
(fig. 16)

Bingham, 1896: 443 (*Psen pulcherrimus*; Tenasserim). Van Lith, 1962: 101 (*Psenulus pulcherrimus*); 1969:

200 (Vietnam); 1973: 140—141 (Nepal); 1976: 115—117 (*Psenulus pulcherrimus pulcherrimus*; Laos, Thailand, Malaya, Singapore). Bohart & Menke, 1976: 173.

First record from Sri Lanka: Southern Province, Galle District, 1 ♂, Kanneliya, 200 ft, black light, 15—17 Oct. 1976, G. F. Hevel, R. E. Dietz, S. Karunaratne, D. W. Balasooriya (USNM).

This male is somewhat darker than the males of the nominate form I have seen from Nepal and southeastern Asia.

Marks along tegulae small. Posterior mark on scutum almost divided into two square marks. Scutellum black except for narrow yellow hind margin. Marks on back of propodeum reduced to two narrow oblong marks close to median longitudinal groove (fig. 16).

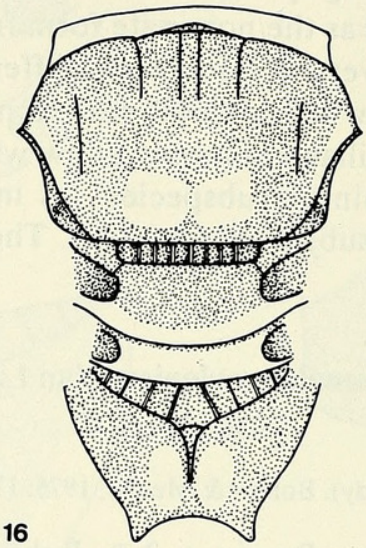


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Fig. 16. *Psenulus pulcherrimus* (Bingham), ♂, Sri Lanka, thorax, dorsal aspect.

Apical ⅔ of petiole and ventral plate of petiole blackish; narrow hind margin of ventral plate reddish. Base of first tergite blackish-brown, bases of sternites dark brown. Fore and mid femora dark brown on their posterior surface, hind femora almost entirely black, apical ⅔ of hind tibiae and hind tarsi dark brown.

Punctation of scutum rather strong. First recurrent vein of fore wings ending in first submarginal cell, very close to RS, second recurrent vein ending well in third submarginal cell.

Although the venation of the fore wings differs from the usual course, I believe this specimen has been correctly identified. As the series from Nepal and Laos show much variation in colour pattern, I hesitate to name the present material as a distinct subspecies. It is easily distinguished from the closely related *P. leucognathus* from South India (Van Lith, 1976).

Psenulus carinifrons taprobanensis subsp. nov.

Female. — Resembling nominate subspecies. Length about 7 mm. Basal ⅔ of second gastral tergite either entirely red or with two separate red spots. Fore and mid trochanters yellow, fore and mid femora yellow except for basal half which is black. Fore and mid tibiae and tarsi yellow, last segment of mid tarsi somewhat

brownish. Hind trochanters and femora black, basal 3/5 of hind tibiae in dorsal view yellow; hind tarsi brown. Scape and underside of second antennal segment yellow, following segments blackish-brown above, reddish-brown below.

Propodeum smooth behind enclosed area, back shining, very finely punctate, dorso-laterally some fine or indistinct striation.

Male. — Gaster black, sometimes some indistinct reddish marking on base of second tergite. Legs as in female but basal ¾ of hind tibiae yellow in dorsal aspect. Hind basitarsi yellowish, or pale yellowish-brown, tarsal segments 2—4 pale brown, last segment brown.

Punctation of scutum coarser than in female. Declivous part of propodeum rather coarsely reticulato-carinate.

Sri Lanka: Western Province, 1 ♀, holotype, Yakkala, 18 mi NE Colombo, locality 11, indoors, 1—15 Febr. 1962; 2 ♂, allo- and paratype, Madinnagoda, 4 mi east Colombo, at light, 15 Febr. 1962, A. Perera, all Lund University Ceylon Expedition 1962, Brinck-Andersson-Cederholm (LU); 1 ♀, paratype, Colombo District, Labugama, 400 ft, 9 May 1976, K. V. Krombein, P. B. Karunaratne, S. Karunaratne, D. W. Balasooriya (USNM). Central Province, 1 ♀, paratype, Ambacotta, 14 Dec. 1953, F. Keiser (NMB); 1 ♂, paratype, Kandy District, Kandy, Udawattakele Sanctuary, 2100 ft, 16—31 Aug. 1976, S. Karunaratne (USNM). Southern Province, 1 ♀, paratype, Galle District, Udagama, Kanneliya Jungle, 400 ft, 6—12 Oct. 1973, K. V. Krombein, P. B. Karunaratne, P. Fernando, J. Ferdinando (USNM).

South India: Madras State, Coimbatore, 1 ♂, paratype, Sept. 1955, P. S. Nathan (Ferguson collection, OSU) (earlier recorded as *P. carinifrons* subsp. nov.?, Van Lith, 1966); 1 ♂, paratype, 1400 ft, April 1962 (CNC); 1 ♂, paratype, 1400 ft, Aug. 1972, T.R.S. Nathan (HT). Pondicherry State, Karikal, 1 ♂, paratype, Febr. 1962, P. S. Nathan (IU).

This subspecies differs from *P. carinifrons malayanus* Van Lith, 1969, another subspecies with black bases of fore and mid femora, in the reddish marked gaster of the female. Thus far this character appears to be a constant one. The hind basitarsi of the male of *malayanus* seem to be darker. The remaining known subspecies of *P. carinifrons*, including the nominate subspecies, have entirely yellow fore and mid femora.

P. carinifrons taprobanensis much resembles *P. xanthognathus centralis* from Palawan and Mindanao. This latter form also has a rather flat and finely punctate frons, but the dorsal side of fore and mid trochanters is brown whilst the yellow marking of pronotum and scutellum is often reduced.

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