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Three new species of *Hadrophanurus* Kieffer from India with a key to species

(Hymenoptera: Scelionidae)

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(With 3 Plates)

Hadrophanurus testaceus n. sp.

Female: Head and thorax blackish; abdomen brownish yellow, except the sixth and seventh segments which are brownish. Scape yellowish-brown, rest of the antennal segments dark brown. Wings hyaline, veins and hairs yellowish-brown. Legs yellowish, except coxae which are brownish and proximal two-thirds of fore femur which is yellowish-brown and third, fourth and fifth tarsal segments of foreleg brownish; second, third and fourth tarsal segments of middle leg and hind leg yellowish-brown, and last tarsal segment of middle and hind legs brownish.

Head, finely hairy, reticulate and broader than thorax; frons with a longitudinal shallow depression having transverse striations and a longitudinal keel at the base of the antennae. The distance between median and lateral ocelli slightly more than half the distance between the lateral ocelli; lateral not close to the eyes; eyes hairy. Antenna twelve-segmented

and with a club; radicle nearly one-sixth the scape; scape long and slender; second and third antennal segments slender proximally and stouter distally; second segment about one and a half times the third; sixth to eleventh segments thicker than long and twelfth, conical; scape sparsely hairy and rest of the segments except basal part of pedicel hairy. Mandible three-dentate and with a few hairs; maxillary palpi two segmented, labial palpi one segmented.

Thorax, finely hairy, slightly arched, broad and round anteriorly and narrowed posteriorly; pronotum not visible from above; mesonotum with shallow punctures and aciculate in between the depressions; parapsidal furrows absent; metanotum narrow; lines of scutellum with metanotum, and metanotum with propodeum with a row of pits; also lines of union of propleuron with mesopleuron, mesopleuron with metapleuron and metapleuron with pleuron of propodeum with a row of pits. Forewing with submarginal, marginal, postmarginal and stigmal veins; marginal slightly shorter than stigmal; postmarginal without any definite termination. Forefemur longer than tibia; tibia with a bifid, curved, but not so well developed spur; first tarsal segment about three-fourths the length of tibia; middle tibia slightly longer than femur, apical spur not prominent, first tarsal segment about one-third the length of tibia; hind femur stout slightly shorter than tibia, which has a very small apical spur, first tarsal segment almost half the length of tibia.

Abdomen, coarsely sculptured, slightly longer than broad, first segment narrow, its tergum longitudinally striated and pits along the anterior margin; second segment largest, its tergite and the posterior half of the third tergite finely reticulate; third to seventh segments progressively narrower. Length 1.07 mm.

Holotype: Female on card mount.

Paratype: One female dissected and mounted on slide.

In National Pusa collection.

Type Locality: New Delhi.

Host: Eggs of a Hemipteran.

Coll. M. J. ЧАЧКО, 2. 4. 1960.

Hadrophanurus nigroides n. sp.

Female: Head, thorax and abdomen black. First seven antennal segments brownish-yellow, rest brownish; middle third of scape also brownish; wings hyaline, veins and hairs yellowish-brown. Coxa femur and last tarsal segments brownish; rest of the leg (including distal end of femur) yellowish-brown.

Head, broader than thorax, finely reticulate and not hairy; frons with a very shallow area having transverse striations and a small keel at the base of the antennae. The distance between median and lateral ocelli slightly more than half the distance between the lateral ocelli; lateral ocelli not

touching the eyes; eyes naked. Antennae twelve-segmented and with a club; radicle one-seventh the length of scape; scape long and slender; second antennal segment slender proximally and stouter distally; distal end of third segment slightly stouter than the proximal end; second segment about one and a half times the third; fourth, fifth and sixth segments almost as long as thick; seventh to eleventh thicker than long and twelfth conical; all antennal segments, except scape, hairy. Mandible three-dentate, maxillary palpi two-segmented and labial palpi one-segmented.

Thorax, finely hairy, slightly arched, broadly rounded anteriorly, narrowed posteriorly; pronotum not visible from above; mesonotum pitted and aciculate in between the pits; parapsidal furrows absent; metanotum narrow; lines of union of scutellum with metanotum, and metanotum with propodeum pitted; also lines of union of propleuron with mesopleuron, mesopleuron with metapleuron, and metapleuron with pleuron of propodeum with a row of pits. Fore wing with submarginal, marginal, postmarginal and stigmal veins; marginal vein two-fifths of stigmal vein; postmarginal without any definite termination. Foretibia three-fourths the length of femur and with a well developed, curved, bifid, apical spur; first tarsal segment long, slightly shorter than tibia; middle tibia as long as femur and with a very small apical spur; tarsi as long as tibia, first tarsus being one-third the tibia; hind femur stout, shorter than tibia; tibia with a small apical spur; first tarsal segment long, being half the tibia.

Abdomen, longer than broad; first tergum with longitudinal striations and with pits along the anterior margin; second tergum largest; second, third and fourth tergites finely reticulate; fifth, sixth, and seventh segments progressively narrower.

Length — 1.14 mm.

Holotype: Female on card mount.

Paratype: Female dissected and mounted on slide.

In National Pusa collection.

Type Locality: New Delhi.

Host: not known.

Coll. M. J. CHACKO.

Hadrophanurus indicus n. sp.

Female: Head and thorax blackish, first four abdominal segments yellowish-brown, fifth, sixth and seventh brownish. Scape yellowish-brown, rest of antennal segments brownish. Wings hyaline, veins and hairs yellowish-brown. Legs yellowish, except the coxae, the proximal two-thirds of fore femur, the last two tarsal segments of the fore leg and the last four tarsal segments of the middle and hind legs, which are brownish.

Head, broader than thorax, finely reticulate and hairy; frons with a shallow depression having transverse striations and a small keel between the base of the antennae. The distance between median and lateral ocelli

being slightly more than half the distance between the lateral ocelli; lateral ocelli remote from the eyes; eyes hairy. Antenna twelve-segmented and with a space club; radicle one-fifth the scape; scape long and slender; second and third segments slender proximally and thicker distally; second segment slightly more than one and a half times the third; fourth and fifth longer than thick, sixth to eleventh thicker than long and twelfth conical; scape sparsely hairy, rest of the antennal segments hairy. Mandible three-dentate and with a few hairs; maxillary palpi two-segmented, labial palpi one-segmented.

Thorax, finely hairy, slightly arched, broad and round anteriorly and narrowed proximally; pronotum not visible from above; mesonotum pitted and aciculate in between the pits; parapsidal furrows absent; metanotum narrow; lines of union of scutellum with metanotum, metanotum with propodeum, propleuron with mesopleuron, mesopleuron with metapleuron, and metapleuron with pleuron of propodeum with a row of pits. Fore wing with submarginal, marginal, postmarginal and stigmal veins; marginal vein slightly shorter than stigmal vein; postmarginal without any definite termination. Fore femur longer than tibia, which has a well developed, curved, bifid, apical spur; first tarsal segment long, about three-fourths the tibia; middle tibia slightly shorter than femur and with a small apical spur; first tarsal segment long, about one-third the tibia; hind femur stout, tibia as long as femur and with a very small apical spur; first tarsal segment long, less than half the tibia.

Abdomen, coarsely sculptured, almost as broad as long; first segment narrow, its tergum longitudinally striated and along the anterior margin a row of pits; posterior half of second, third and fourth tergites finely reticulate.

Length — 1.00 mm.

Holotype: Female on card mount.

Paratype: dissected and mounted on slide.

In National Pusa collection.

Type Locality: New Delhi.

Host: not known.

Coll. B. R. S. Rao 6. 4. 1960.

Key to species of *Hadrophanurus* KIEFFER

Females

1. Abdomen brownish 2
 Abdomen black, hind tibia longer than femur and marginal vein two-fifths the stig-
 mal vein *H. nigroides* n. sp.
2. Hind tibia not shorter than femur 3
 Hind tibia shorter than femur, marginal vein and stigmal vein almost equal . . .
 *H. karnalensis* CHACKO & KATIYAR¹⁾

¹⁾ CHACKO, M. J. & KATIYAR, R. N., *Hadrophanurus karnalensis* sp. n., a parasite of *Bagrada cruciferarum* KIRKALDY. Proc. R. ent. Soc. London, (B) 30, 161—163, 1961.

3. Middle tibia longer than femur 4
 Middle tibia shorter than femur; marginal only slightly shorter than stigmal . . .
 *H. indicus*, n. sp.
4. Marginal distinctly much shorter than stigmal. Abdomen testaceous
 *H. testaceus*, n. sp.
 Marginal slightly more than half the length of stigmal. Abdomen dark brown .
 *H. pennsylvanicus* (ASHM.)

Acknowledgment

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Summary

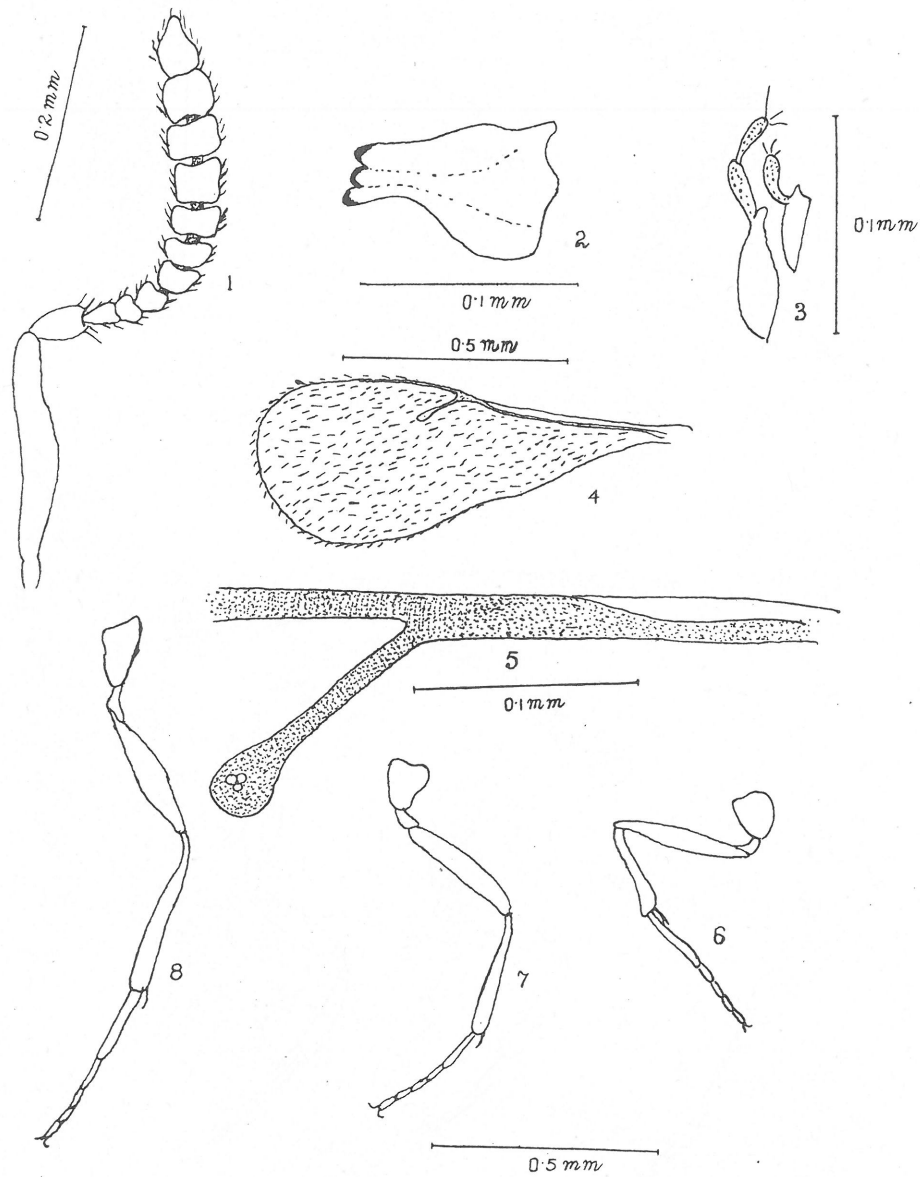
There are described 3 new species of the genus *Hadrophanurus* KIEFF. with a key to the species of this genus.

Zusammenfassung

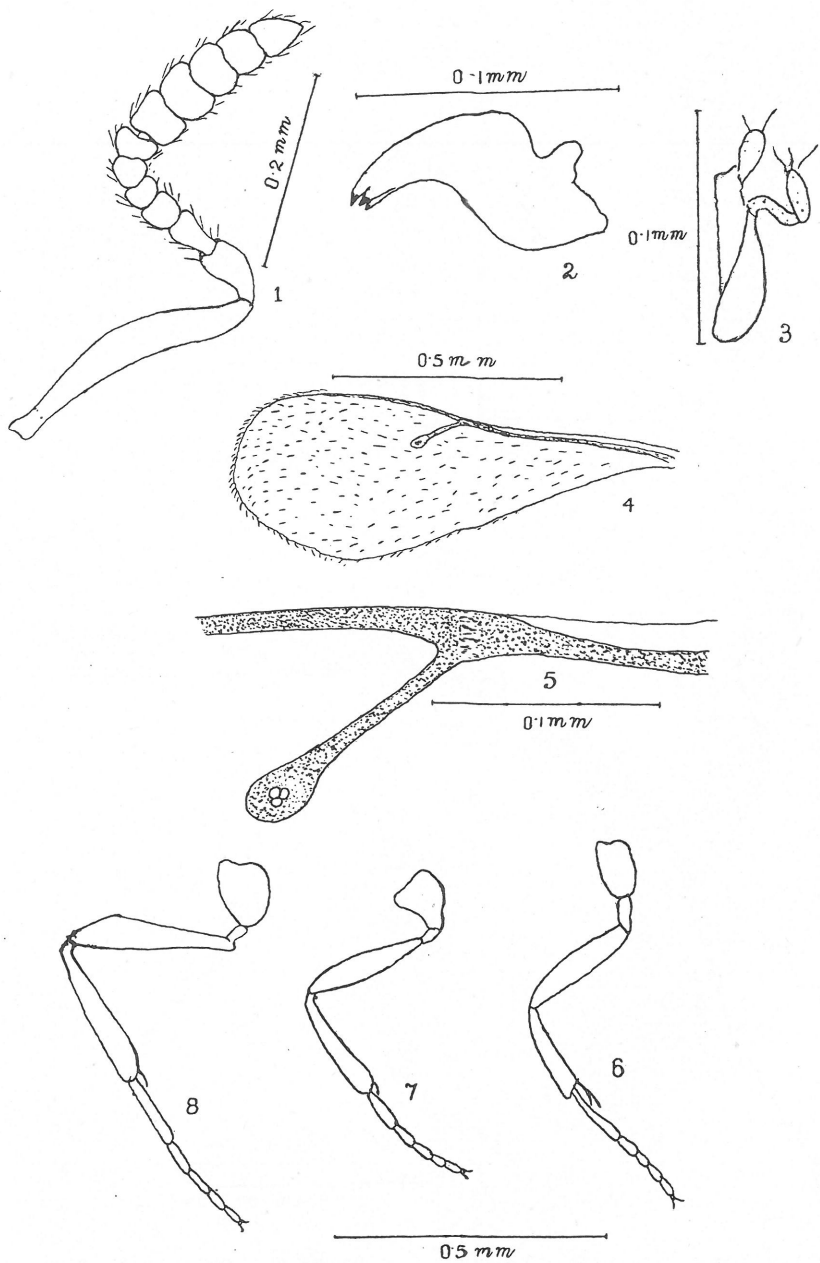
Die Autoren beschreiben 3 neue Arten der Gattung *Hadrophanurus* KIEFF. und geben einen Bestimmungsschlüssel für die Arten dieser Gattung.

Резюме

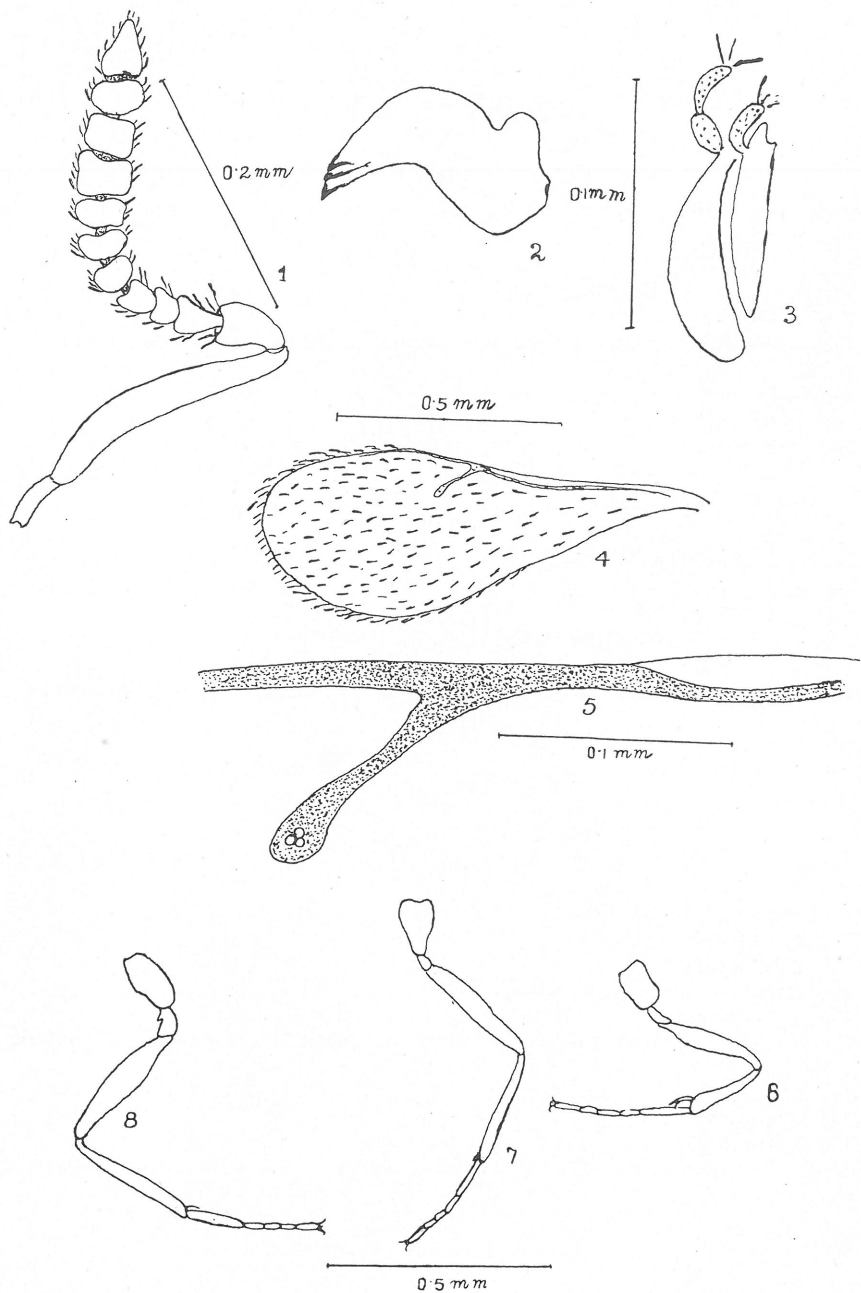
Автор описывает три новых вида рода *Hadrophanurus* KIEFF. и дает ключ для определения видов этого рода.



B. R. Subba Rao & M. J. Chacko, New species of *Hadrophanurus* KIEFFER



B. R. Subba Rao & M. J. Chacko, New species of *Hadrophanurus* KIEFFER



B. R. Subba Rao & M. J. Chacko, New species of *Hadrophanurus* KIEFFER

Explanation of Plates 1—3

Plate 1

Hadrophanurus testaceus n. sp., ♀

- Fig. 1. Antenna
- Fig. 2. Mandible
- Fig. 3. Labial and Maxillary palpi
- Fig. 4. Forewing
- Fig. 5. Forewing, part showing submarginal, marginal, postmarginal, and stigmal veins
- Fig. 6. Foreleg
- Fig. 7. Midleg
- Fig. 8. Hindleg

Plate 2

Hadrophanurus nigroides n. sp., ♀

- Fig. 1. Antenna
- Fig. 2. Mandible
- Fig. 3. Labial and Maxillary palpi
- Fig. 4. Forewing
- Fig. 5. Forewing, part showing submarginal, marginal, postmarginal, and stigmal veins
- Fig. 6. Foreleg
- Fig. 7. Midleg
- Fig. 8. Hindleg

Plate 3

Hadrophanurus indicus n. sp., ♀

- Fig. 1. Antenna
- Fig. 2. Mandible
- Fig. 3. Labial and Maxillary palpi
- Fig. 4. Forewing
- Fig. 5. Forewing, part showing submarginal, marginal, postmarginal, and stigmal veins
- Fig. 6. Foreleg
- Fig. 7. Midleg
- Fig. 8. Hindleg