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THE SPECIES OF THE GENUS *RHACONOTUS* RUTHE, 1854 (HYMENOPTERA: BRACONIDAE: DORYCTINAE) FROM CHINA WITH A KEY TO SPECIES

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Abstract.— The fourteen new species of *Rhaconotus* Ruthe, 1854 from South Asia are described and illustrated: *Rh. affinis* **sp. nov.**, *Rh. chinensis* **sp. nov.**, *Rh. fujianus* **sp. nov.**, *Rh. hei* **sp. nov.**, *Rh. heterotrichus* **sp. nov.**, *Rh. intermedius* **sp. nov.**, *Rh. ipodoryctoides* **sp. nov.**, *Rh. iterabilis* **sp. nov.**, *Rh. luteosetosus* **sp. nov.**, *Rh. magnus* **sp. nov.**, *Rh. oriens* **sp. nov.**, *Rh. tergalis* **sp. nov.**, *Rh. tianmushanus* **sp. nov.**, and *Rh. yaoae* **sp. nov**. The following species are recorded first time for the fauna of China: *Rh. aciculatus* Ruthe, *Rh. menippus* Nixon, *Rh. nadezhdae* (Tobias et Belokobylskij), and *Rh. zarudnyi* Belokobylskij. The key for determination of Chinese species of *Rhaconotus* is provided.

Key words.— Hymenoptera, Braconidae, Doryctinae, *Rhaconotus*, new species, new records, South Asia, China, Vietnam.

Introduction

The genus *Rhaconotus* Ruthe, 1854 is one of the largest genera in the subfamily Doryctinae. More then 80 species of this genus have been described from the Palaearctic, Nearctic, Oriental and Afrotropical zoogeographical regions. The members of this genus are also known from the Neotropical and Australian regions (Marsh 2002; unpublished data). This genus is more diverse in tropical and subtropical areas, where about 65 species have been described (Shenefelt and Marsh 1976, Belokobylskij 2001). While the status of most Oriental species of *Rhaconotus* is more or less understood, the described Afrotropical species of this genus need to be revised.

The main diagnostic characters of the genus *Rhaconotus* are the enlarged fifth or sixth tergite sculptured at least basally, the fourth and fifth tergites with more or less distinct transverse crenulated basal furrows, all femora with dorsal protuberances, the parallel vein of fore wing interstitial and the recurrent vein of fore wing postfurcal. Study of the Oriental species of this genus showed that there is distinct variation in some characters, including such important ones as the fifth and (more often) sixth tergites are not distinctly enlarged in several species (*Rh. schoenobivorus* (Rohwer), *Rh. menippus* Nixon, *Rh. iterabilis* sp. nov., *Rh. tianmushanus* sp. nov., all species of *Rh. signipennis* group) and have length more or less same as proceeding tergites. More rarely, other characters are variable also – for example, the recurrent vein is interstitial or sometimes shortly antefurcal in *Rh. heterotrichus* sp. nov. and *Rh. ipodoryctoides* sp. nov., the parallel vein is not absolutely interstitial in *Rh. signatus* Belokobylskij and *Rh. heterotrichus* sp. nov., and the protuberances of hind femur are very weakly developed in several species. All these data, as well as sometimes the presence of indistinctly or distinctly bordered basal area on second tergite (species of *Rh. signipennis* group) don't allow the complete separation of some intermediate forms of *Rhaconotus* from the closely related *Ipodoryctes* Granger.

The biological data for *Rhaconotus* species are rather meagre. The information we do have allows us to say that these parasitoids prefer to attack the larvae of the beetles from the families Buprestidae, Curculionidae and Bruchidae. Some Oriental and Afrotropical species (for example, *Rh. schoenobivorus* (Rohwer), *Rh. testacea* (Szepligeti), *Rh. scirpophagae* Wilkinson etc.), however, parasitize the larvae of moths from families Pyralidae (basically) and Gelechiidae, which develop inside grass stems.

Only seven species of *Rhaconotus* were recorded from China until this study (He 1984, Belokobylskij 1988, 1996, 2001). Additionally 19 species of this genus are described or recorded from this country here. A key for determination of all Chinese species is given.

The terminology for wing venation follows that of Belokobylskij and Tobias (1998). The following abbreviations are used: POL – postocellar line; OOL – ocular-ocellar line; Od – maximum diameter of lateral ocellus; AEIG – American Entomological Institute (Gainesville, USA); BCIK – Biodiversity and Conservation Institute of Korea (Silmaeri, S. Korea); BMNH – The Natural History Museum (London, England); CNCI – Canadian National Collection of Insects (Ottawa, Canada); DEI – Deutsches Entomologisches Institut (Eberswalde, Germany); HNHM – Hungarian Natural History Museum (Budapest, Hungary); IEBR – Institute of Ecology and Biological Resources (Hanoi, Vietnam); MIZW – Muzeum i Instytut Zoologii (Warsaw, Poland); NIAES – National Institute of Agro-Environmental Sciences (Tsukuba, Japan); RMNH – Nationaal Natuurhistorisch Museum (Leiden, Netherlands); TAMU – Texas A & M University (College Station, USA); ZJUH – Zhejiang University (Hangzhou, China); ZISP – Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia).

Systematic part

Rhaconotus affinis sp. nov.
(Figs 1–10)

Type material. Holotype: female, Vietnam, prov. Ha Son Binh, Ky Son, Cao Phong, forest, 25.X.1990 (S. Belokobylskij) (ZISP).

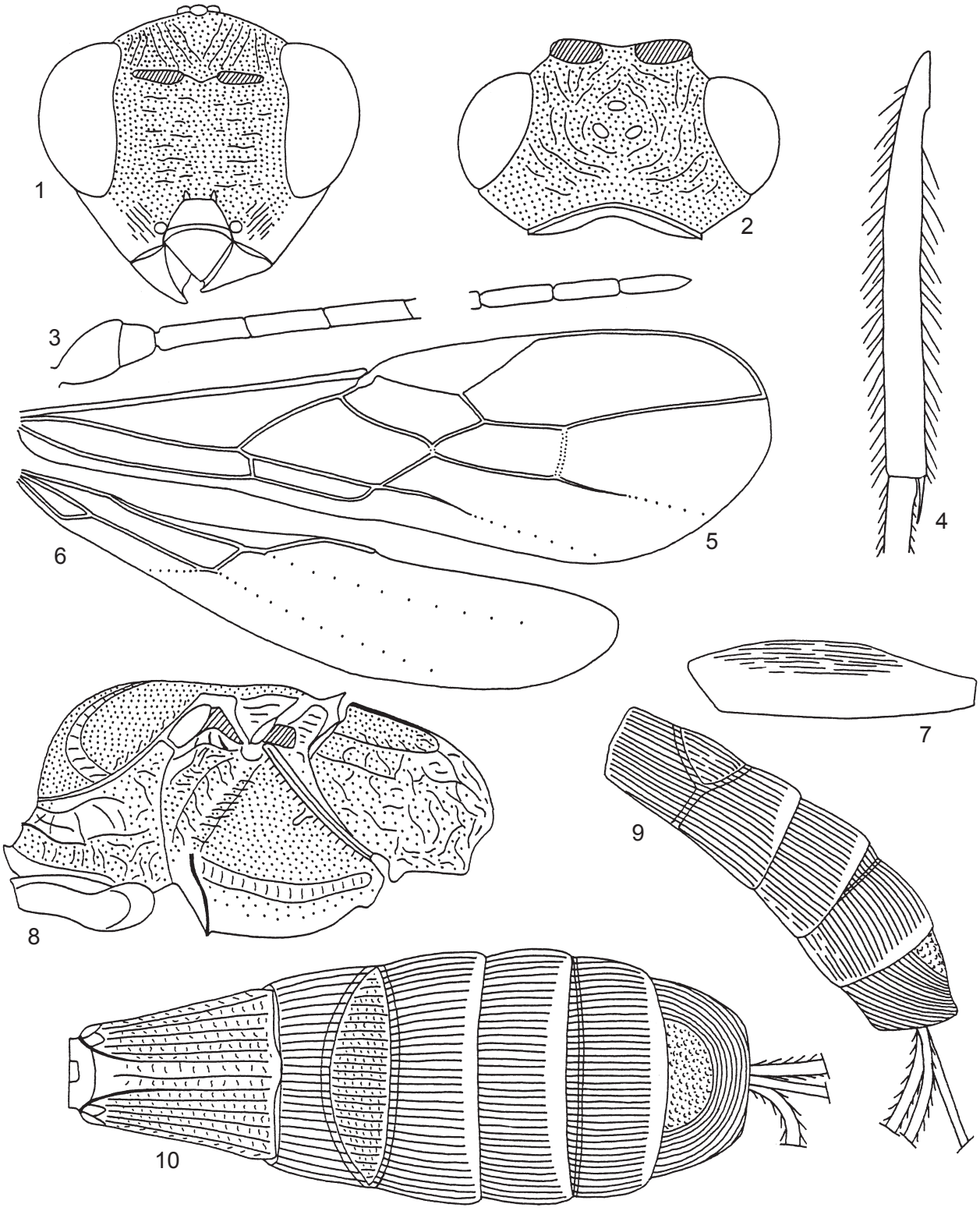
Paratypes. China: 1 female, Yunnan prov., Sanchahe, 12.IV.1981 (He Junhua), No 811937 (ZJUH); 1 female, Yunnan prov., Ruili, 6.V.1981 (He Junhua), No 813017 (ZJUH); 2 females, Yunnan prov., Mengzhe, 19.IV.1981 (He Junhua), No 812542 (ZJUH, ZISP); 1 female, Yunnan prov., Menglun, 10.IV.1981 (He Junhua), No 811903 (ZJUH); 2 females (1 without head), Yunnan prov., Menglun, 10.IV.1981 (He Junhua), No 811914 and No 811694 (ZJUH). Vietnam: 1 female with label as holotype (ZISP); 2 females, prov. Ha Son Binh, Mai Chau, 2.XI.1990 (E. Nartshuk) (ZISP, ZJUH); 1 female, prov. Gia Lai – Con Tum, Buon-Luoi, 20 km N Kannack, 17–20.XI.1988 (A. Sharkov) (ZISP); 1 female, "Quang Binh, Minh Hoa, Cha Lo, duong rung, 15-IV-1998, K. Long" (IEBR). Laos: 1 female, "Annam, Laos" (HNHM). Thailand: 1 female, Kanchanaburi, Sinakharia National Park, el 100 m, 5.VII.1990 (J. Heraty) (TAMU); 1 female, Suphanburi, Khao Yai National Park, Haew Narok Waterfall, 2.VII.1990 (J. Heraty) (ZISP). Malaysia: 1 female, Pahang, Kuala Taman, Negara National Park, el 200 m, 20–21.VI.1990 (J. Heraty) (TAMU). India: 1 female, W Bengal, Darjeeling Distr., Sukno, 180 m, No 388, 22.V.1980 (Topal) (HNHM).

Description. Female. Body length 2.3–3.8 mm; fore wing length 2.0–2.9 mm. Head width 1.6–1.8 times its median length. Head behind eyes strongly and almost linearly narrowed, temple about 0.5 times as long as transverse diameter of eye. Ocelli medium size, in almost equilateral triangle; POL 0.8–1.1 times Od, 0.3–0.4 times OOL. Eye almost glabrous, weakly emarginated opposite antennal sockets, 1.2–1.3 times as high as broad. Malar space height 0.4 times height of eye, almost equal to basal width of mandible. Face width almost equal to height of eye and 1.1–1.2 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated almost on lower level of eyes or slightly higher it. Hypoclypeal depression round, its width 0.7–0.9 times distance from edge of depression to eye. Occipital carina fused with hypostomal carina upper base of mandible. Vertex convex.

Antennae weakly setiform, 28–37-segmented, 1.4–1.6 times as long as body. Length of scapus 1.5–1.7 times its maximum width. First flagellar segment 3.7–4.5 times as long as its apical width, 0.9–1.1 times as long as second segment. Penultimate segment 3.5–4.0 times as long as wide, 0.6–0.8 times as long as first segment, 0.8–0.9 times as long as apical segment; the latter pointed apically.

Mesosoma. Length 1.8–1.9 times its height. Pronotum anteriorly straight (dorsal view), almost straight dorsally (lateral view). Pronotal carina distinct, widely separated medially from posterior margin of pronotum; distances from carina to anterior and posterior margins of pronotum subequal. Mesoscutum highly and roundly raised above pronotum. Notauli rather shallow, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression distinct, deep, with median carina, weakly and roundly directed posterolaterally, sparsely rugulose, 0.3 times as long as weakly convex scutellum. Sternauli rather deep, coarsely crenulate, weakly curved, running along almost entire lower part of mesopleura. Prepectal carina distinct, weakly widened ventrally, without widened lobes opposite fore coxae. Subalar depression shallow, rather wide, crenulate-granulate. Metanotum with pointed tooth. Metapleural lobe long, rather wide and rounded apically.

Wings. Length of fore wing 3.3–3.4 times its maximum width. Radial cell not shortened. Metacarpus 1.3–1.4 times as long as pterostigma. Radial vein arising somewhat behind middle of pterostigma. First radial abscissa forming very obtuse angle with second abscissa. Second radial abscissa 2.1–2.8 times as long as first abscissa, 0.4–0.5 times as long as third abscissa, 1.3–1.7 times as long as first radiomedial



Figures 1–10. *Rhaconotus affinis* sp. nov. (1) Head, frontal view; (2) head, dorsal view; (3) basal and apical segments of antenna; (4) hind tibia; (5) fore wing; (6) hind wing; (7) hind femur; (8) mesosoma, lateral view; (9) second-sixth tergites of metasoma, lateral view; (10) metasoma, dorsal view.

vein. Second radiomedial cell weakly widened distally, its length 2.6–3.0 (rarely 2.5) times maximum width, 1.1–1.3 times length of rather narrow brachial cell. First medial abscissa weakly S-shape. Recurrent vein weakly postfurcal, sometimes interstitial or weakly antefurcal. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.7–1.0 times nervulus length. Brachial cell rather distinctly gently and almost linearly closed before or on level of recurrent vein; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) present, but sometimes very fine. Hind wing 5.0–5.5 times as long as wide. First costal abscissa 0.5–0.6 times as long as second abscissa. First abscissa of mediocubital vein 0.6–0.7 times as long as second abscissa. Recurrent vein rather long, sclerotized basally or entirely unsclerotized, antefurcal.

Legs. Hind femur without distinct dorsal protuberance, its length 3.6–4.0 (rarely 3.4–3.5) times maximum width. Hind tarsus almost as long as hind tibia. Hind tibia apically with 2 outside spines. Hind basitarsus 0.7–0.8 times combined length of second-fifth segments. Second tarsal segment 0.4–0.5 times as long as basitarsus, 2.2–2.3 times as long as fourth segment, 1.0–1.2 times as long as fifth segment (without pretarsus).

Metasoma almost as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 2.0–2.3 times its basal width; its length 1.15–1.25 times apical width. Second tergite without basal area, with distinct, deep, and concavely curved transverse furrow and distinctly separated lenticular apical area, this area 1.7–2.0 (rarely 1.6) times as long as rest part of tergite. Median length of second tergite about 0.7 times its basal width, 1.7–2.3 times length of third tergite. Second suture deep and wide. Sixth tergite not long, almost straight in posterior margin, without median emargination and posteroventral lobes. Sixth tergite 1.0–1.3 times as long as fifth tergite, 1.2–1.5 times as long as fourth tergite. Ovipositor sheath 0.5–0.7 times as long as metasoma, 1.9–2.2 (rarely 2.4) times as long as first tergite, 0.8–1.1 times as long as mesosoma, 0.35–0.45 (rarely 0.47) times as long as fore wing.

Sculpture and pubescence. Vertex densely granulate, arcuately striate for most part or anteriorly only, sometimes striae indistinct. Frons obliquely striate, often with rather dense granulation between striae. Face densely granulate, with striation submedially or for most part. Temple almost smooth anteriorly, rugulose-granulate in posterior half to third. Sides of pronotum entirely rugose-reticulate, with deep and marginate submedian crenulate depression. Mesoscutum and scutellum densely granulate, mesoscutum with 2 convergent striae medioposteriorly and fine rugosity between them. Mesopleura rugulose-granulate in upper ⅓, finely granulate-coriaceous or smooth on rest part. Metapleura densely granulate in anterior ⅓–½, rugulose-granulate in posterior ½–⅔. Propodeum with distinctly marginate basolateral areas, which is granulate and with rugae along carinae (especially posteriorly), sometimes almost smooth basally; with median carina in basal 1/5; rest part of propodeum coarsely reticulate-rugose. Hind coxa finely granulate entirely; hind femur striate or striate-granulate dorsally, smooth on other part, sometimes coriaceous medially. First tergite with complete dorsal carinae, entirely coarsely striate, with fine reticulation between striae. Second-fifth tergites coarsely longitudinally striate, apical area of second tergite striate and usually with distinct rugosity between striae, apical 1/5 of third-fifth tergites smooth. Sixth tergite densely reticulate-granulate basally, distinctly and semicircularly striate for most part. Second-fifth tergites laterally with distinct, almost complete and dense longitudinal striation. Vertex with short sparse semi-erect hairs directed forward. Mesoscutum entirely with dense semi-erect short yellowish hairs. Hind tibia with semi-erect dense hairs dorsally; length of these hairs 0.7–1.0 times maximum width of hind tibia.

Colour. Body black, promesosoma for most part, mesonotum entirely or spots on mesomesosoma reddish brown. Antenna light reddish brown or reddish brown, darkened toward apex, 2 basal segments yellowish. Palpi pale yellow. Legs yellow, sometimes brownish partly. Ovipositor sheath black, paler basally. Wings faintly infuscate. Pterostigma yellow or light brown.

Male unknown.

Diagnosis. This species is similar to *Rh. hei* sp. nov., but differs from the latter in the second radiomedial cell being longer, the hind femur being slender, the apical area of second tergite being wider medially, and the ovipositor being short.

Etymology. From Latin "affinis" meaning "congeneric".

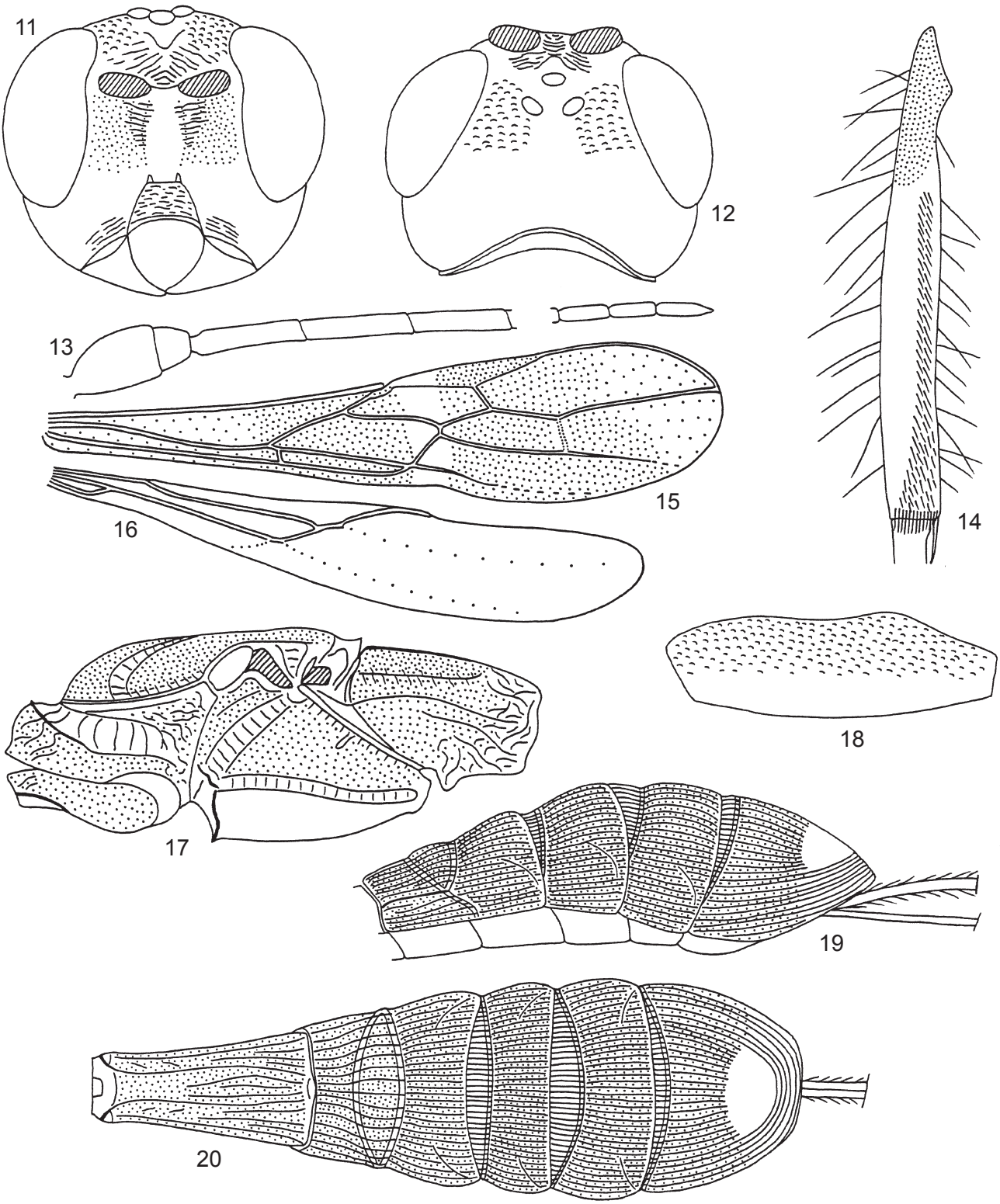
Distribution. China (Yunnan); Vietnam, Laos, Thailand, Malaysia, India.

Rhaconotus chinensis sp. nov.
(Figs 11–20)

Type material. Holotype: female, China, Yunnan prov., Jinghong, 6.VII.1983 (Lang Yichang), No 841258 (ZJUH).

Paratype. 1 female, China, Taiwan, "Formosa, Sauter", "Taihoringsho, 1909.IX" (HNHM).

Description. Female. Body length 5.9–8.4 mm; fore wing length 4.0–5.4 mm. Head width 1.4–1.5 times its median length. Head behind eyes roundly narrowed; temple 0.5–0.6 times as long as transverse diameter of eye. Ocelli small, in triangle with base 1.1 times its sides; POL 0.7–0.9 times Od, 0.4 times OOL. Eye



Figures 11–20. *Rhaconotus chinensis* sp. nov. (11) Head, frontal view; (12) head, dorsal view; (13) basal and apical segments of antenna; (14) hind tibia; (15) fore wing; (16) hind wing; (17) mesosoma, lateral view; (18) hind femur; (19) second-sixth tergites of metasoma, lateral view; (20) metasoma, dorsal view.

glabrous, distinctly emarginated opposite antennal sockets, 1.2 times as high as broad. Malar space height 0.3 times height of eye, 0.75–0.8 times basal width of mandible. Face width 0.8–0.9 times height of eye and 1.3 times height of face and clypeus combined. Malar suture fine. Upper margin of clypeus situated distinctly upper lower level of eyes. Hypoclypeal depression round, its width 0.8 times distance from edge of depression to eye. Occipital carina not fused with hypostomal carina below being obliterated for short distance upper base of mandible. Vertex convex.

Antennae filiform, 49-segmented, longer than body. Length of scapus 1.8 times its maximum width. First flagellar segment 5.0 times as long as its apical width, 1.1 times as long as second segment. Penultimate segment 4.5 times as long as wide, 0.5 times as long as first segment, almost as long as apical segment; the latter with short and distinct apical spine.

Mesosoma. Length 2.3–2.4 times its height. Pronotum apically straight (dorsal view), posteriorly distinctly and rather narrowly convex dorsally (lateral view). Pronotal carina distinct, high, widely separated from posterior margin of pronotum, distances from carina to anterior and posterior margins of pronotum subequal. Mesoscutum weakly and roundly raised above pronotum. Notauli deep, complete and crenulate. Mesoscutum without median depression. Prescutellar depression distinct, rather deep, its posterior sides roundly directed posterolaterally, with distinct 1–3 carinae, sparsely sculptured, 0.2–0.3 times as long as convex scutellum. Sternauli rather deep, crenulate, weakly S-shape, long, running along entire lower part of mesopleura. Prepectal carina strong, widened below, with small lobes opposite fore coxae. Subalar depression deep, narrow, crenulate. Metanotum with short pointed tooth. Metapleural lobe rather long, narrow and rounded apically.

Wings. Length of fore wing 4.4–4.7 times its maximum width. Radial cell not shortened. Metacarpus 1.2–1.3 times as long as pterostigma. Radial vein arising almost from middle of pterostigma. First radial abscissa forming distinct angle with second abscissa. Second radial abscissa 2.3–2.5 times as long as first abscissa, 0.4–0.5 times as long as third abscissa, 1.4–1.5 times as long as first radiomedial vein. Second radiomedial cell not widened distally, its length 3.0–3.3 times maximum width, 0.9–1.0 times length of brachial cell. First medial abscissa very weakly S-shape. Recurrent vein distinctly postfurcal. Mediocubital vein distinctly curved to anal vein in distal half. Distance from nervulus to basal vein 0.5–0.7 times nervulus length. Brachial cell gently and roundly closed slightly before level of recurrent vein; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) absent. Hind wing weakly narrowed basally, slightly concave posteriorly in basal ¼, 5.7–6.0 times as long as wide. First costal abscissa 0.5–0.6 times as long as second abscissa. First abscissa of mediocubital vein 0.3–0.4 times as long as second abscissa. Recurrent vein long and unsclerotized.

Legs. Hind femur with more or less distinct dorsal protuberance, its length 3.0–3.3 times maximum width. Hind tarsus almost as long as hind tibia. Hind tibia apically with 6–7 outside spines. Hind basitarsus 0.6 times combined length of second-fifth segments. Second tarsal segment 0.4–0.45 times as long as basitarsus, 2.0–2.2 times as long as fourth segment, 0.9–1.0 times as long as fifth segment (without pretarsus).

Metasoma 1.1–1.2 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 1.7–1.8 times its basal width; its length 1.6–1.8 times apical width. Second tergite with very narrow and smooth basal area, with deep, narrow and concavely curved transverse submedian furrow and distinctly separated lenticular apical area, this area almost as long as rest part of tergite. Median length of second tergite 0.8 times its basal width, 1.5–1.7 times length of third tergite. Second suture rather shallow and wide. Sixth tergite rather large, rounded in posterior margin, without or with very shallow median emargination, without posteroventral lobes. Sixth tergite 1.8–2.0 times as long as fifth tergite, 2.3 times as long as fourth tergite. Ovipositor sheath 0.65–0.85 times as long as metasoma, 2.5–3.0 times as long as first tergite, 0.55–0.70 times as long as fore wing.

Sculpture and pubescence. Vertex and temple smooth, sometimes finely coriaceous partly; frons very finely coriaceous, rugose or rugose-striate in anterior half. Face finely rugulose-granulate, almost smooth on narrow dorsomedian area and below. Sides of pronotum coarsely rugose, coriaceous ventrally. Mesoscutum densely coriaceous, with 2 convergent striae and rugosity between them in medioposterior ⅓. Mesopleura densely and finely coriaceous, almost smooth below sternauli. Propodeum without marginate areas, with median in basal half and 2 lateral in basal ⅔ carinae, densely coriaceous-granulate in basal half, coarsely rugose in posterior half. Legs densely and finely coriaceous. First tergite with distinct and complete dorsal carinae, with several long striae, densely rugulose-coriaceous between striae. Second-fifth tergites coarsely and densely striate, with fine rugulosity between striae; sixth tergite striate in basal ½–⅔, striae concentrically in apical ⅓–½, with small smooth median area in posterior ⅓. Second-fourth tergites laterally with distinct striae and fine rugosity between it. Vertex with long and sparse semi-erect white hairs directed backwards. Mesoscutum with rather dense semi-erect white hairs arranged along notauli and laterally. Hind tibia dorsally with semi-erect sparse white hairs; length of these hairs 1.2–1.3 times maximum width of hind tibia.

Colour. Body black. Scapus dark reddish brown or reddish brown, pedicel and flagellum in basal ⅔ light reddish brown, flagellum distinctly darkened toward apex. Palpi dark brown, sixth maxillary segment light brown. All legs light reddish brown, all tibiae basally and fifth segments darkened. Ovipositor sheath black. Wings faintly infuscate, more distinctly darkened near basal vein and under pterostigma. Pterostigma dark brown, whitish yellow in basal ⅓.

Male unknown.

Diagnosis. This species is similar to *Rh. jacobsoni* (Szepligeti), but differs from the latter in the vertex being almost smooth, the body being with long sparse hairs, the first tergite being wide and short, the second tergite being short and with deep curved additional furrow, the wings being faintly infuscate, and the legs being entirely light reddish brown.

Etymology. From the name of country, type locality of species.

Distribution. China (Yunnan, Taiwan).

Rhaconotus fujianus sp. nov.
(Figs 21–30)

Type material. Holotype: female, China, Fujian prov., Shaxian, VIII.1979 (Lin Manquan), No 20004042 (ZJUH).

Description. Female. Body length 5.0 mm; fore wing length 3.1 mm. Head width 1.4 times its median length. Head behind eyes weakly roundly narrowed; temple 0.75 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL 1.3 times Od, 0.5 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.1 times as high as broad. Malar space height 0.45 times height of eye, 0.8 times basal width of mandible. Face width equal to height of eye and 1.3 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated weakly upper lower level of eyes. Hypoclypeal depression round, its width almost equal to distance from edge of depression to eye, 0.5 times width of face. Occipital carina not fused with hypostomal carina below being obliterated for short distance upper base of mandible. Vertex weakly convex.

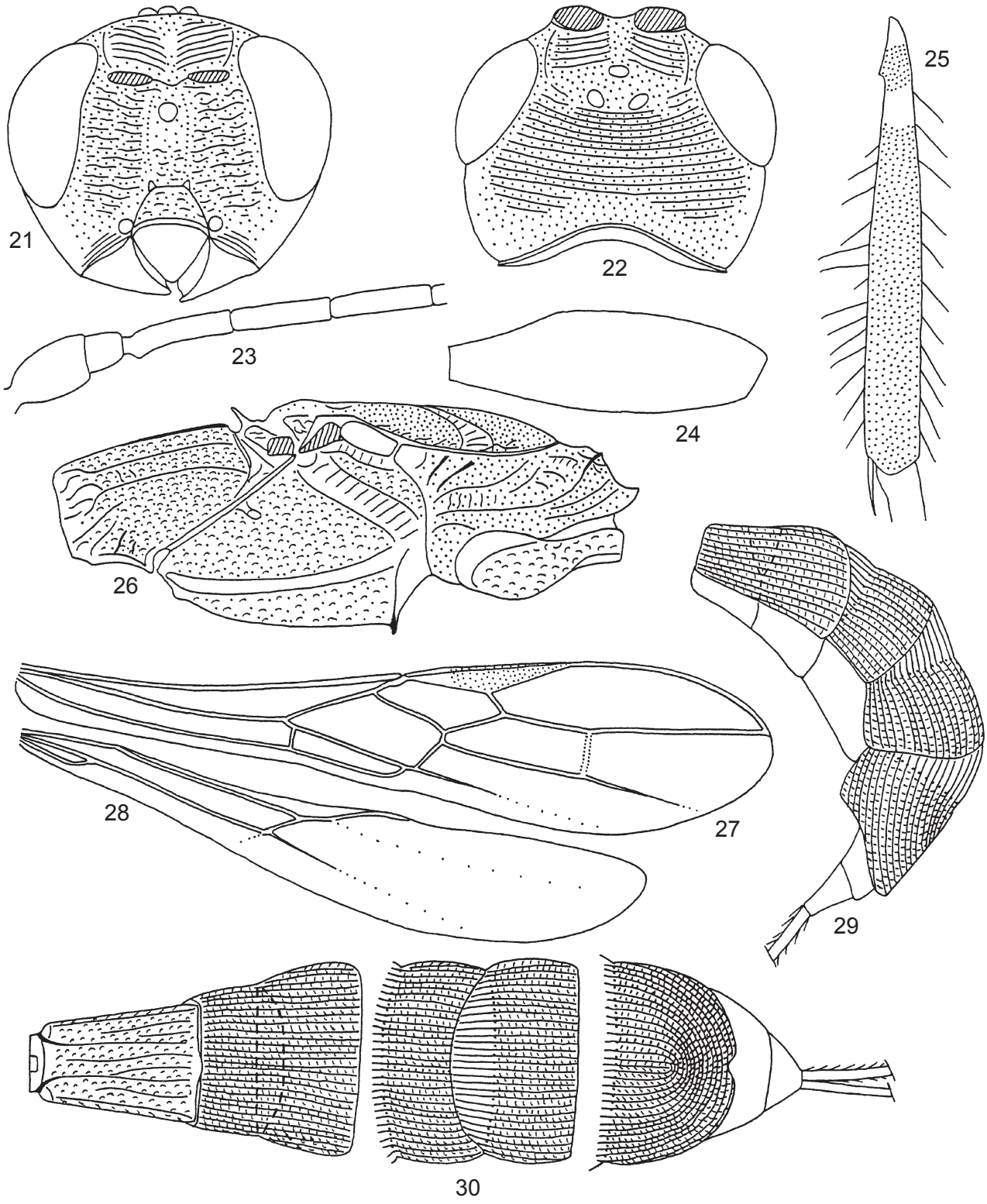
Antennae slender, almost filiform, more than 27-segmented (apical segments missing). Length of scapus 1.6 times its maximum width. First flagellar segment 4.0 times as long as its apical width, slightly longer than second segment. Subapical segments 3.7 times as long as their width.

Mesosoma. Length 2.6 times its height. Pronotum anteriorly weakly convex (dorsal view), more or less regularly distinctly convex dorsally (lateral view). Pronotal carina high, widely separated medially from posterior margin of pronotum; distance from carina to posterior margin of pronotum 0.75 times distance from carina to anterior margin. Mesoscutum weakly and gently-roundly raised above pronotum. Notauli deep, rather wide, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression deep, strongly and linearly directed posterolaterally, with median carina, sparsely rugose, 0.33 times as long as weakly convex scutellum. Sternauli rather shallow, almost smooth, straight, running along entire lower part of mesopleura. Prepectal carina distinct, wide ventrally, with 2 widened lobes opposite fore coxae. Subalar depression shallow, narrow, coarsely striate. Mesopleural suture almost entirely smooth. Metanotum with rather long slender pointed tooth. Metapleural lobe distinct, rather narrow and pointed apically.

Wings. Length of fore wing 4.2 times its maximum width. Radial cell not shortened. Metacarpus 1.2 times as long as pterostigma. Radial vein arising almost from middle of pterostigma. First radial abscissa forming distinctly obtuse angle with second abscissa. Second radial abscissa 3.8 times as long as first abscissa, 0.55 times as long as third abscissa, 1.6 times as long as first radiomedial vein. Second radiomedial cell almost not widened distally, its length 3.6 times its maximum width, 1.15 times length of wide brachial cell. First medial abscissa weakly S-shape. Recurrent vein distinctly postfurcal. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.5 times nervulus length. Brachial cell rather sharply and roundly closed on level of recurrent vein; posterior bulla on brachial vein indistinct; posterior abscissa of anal vein (behind brachial vein) absent. Parallel vein interstitial. Hind wing 6.5 times as long as wide. First costal abscissa 0.55 times as long as second abscissa. First abscissa of mediocubital vein 0.4 times as long as second abscissa. Recurrent vein short, strongly desclerotized, interstitial.

Legs. Hind femur with dorsal protuberance, its length about 3.0 times maximum width. Hind tarsus almost as long as hind tibia. Hind tibia apically with 4 outside spines. Hind basitarsus 0.6 times combined length of second-fifth segments. Second tarsal segment 0.55 times as long as basitarsus, 2.3 times as long as fourth segment, 1.3 times as long as fifth segment (without pretarsus).

Metasoma 1.3 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 1.8 times its basal width; its length 1.4 times apical width. Second tergite without basal area, with very fine (almost indistinct) and weakly concavely curved transverse furrow and indistinct apical area. Median length of second tergite 0.6 times its basal width, almost equal to length of third tergite. Second suture very shallow and rather wide. Sixth tergite large, regularly rounded in posterior margin, with rather deep and narrow medioposterior emargination, with distinct posteroventral corners. Sixth tergite 1.6 times as long as fifth



Figures 21–30. *Rhaconotus fujianus* sp. nov. (21) Head, frontal view; (22) head, dorsal view; (23) five basal segments of antenna; (24) hind femur; (25) hind tibia; (26) mesosoma, lateral view; (27) fore wing; (28) hind wing; (29) second-sixth tergites of metasoma, lateral view; (30) metasoma, dorsal view.

tergite, 1.6 times as long as fourth tergite. Ovipositor sheath 0.7 times as long as metasoma, 3.0 times as long as first tergite, 1.2 times as long as mesosoma, 0.6 times as long as fore wing.

Sculpture and pubescence. Vertex and frons rather distinctly densely transversely striate with dense ground granulation, frons posteriorly granulate only. Temple densely granulate. Face densely rugose-granulate. Sides of pronotum densely coriaceous with 4 coarse longitudinal striae. Mesoscutum densely and rather finely granulate, with 2 convergent carinae in posterior ⅓ and with sparse rugae between them. Scutellum densely and finely granulate. Mesopleura densely and entirely granulate-coriaceous. Metapleura densely coriaceous, with sparse and coarse rugae posteriorly. Propodeum entirely densely granulate-coriaceous, with 2 complete lateral carinae, with distinct median carina in basal $^{3}/_{5}$ and narrow long and transversely striate areola in posterior $^{2}/_{5}$. Hind coxa entirely densely granulate; hind femur entirely densely granulate-coriaceous. First tergite with complete subparallel dorsal carinae. First-fifth tergites entirely densely striate with very dense and fine transverse rugulosity between striae. Sixth tergite entirely with dense semicircular coarse striation and very dense fine rugulosity between striae. Second-fifth tergites laterally with rather dense and weakly curved longitudinal striation and dense rugulosity between striae. Vertex with rather short and quite dense semi-erect yellowish hairs, arranged widely laterally and posteriorly and directed backwards. Mesoscutum with rather dense semi-erect long yellowish hairs arranged rather widely along notauli. Metapleura glabrous for most part. Hind tibia with almost erect sparse light hairs dorsally; length of these hairs 0.5–0.8 times maximum width of hind tibia.

Colour. Body black, head below and sixth tergite apically reddish; head behind eye narrowly yellowish-red. Antenna light reddish brown, darkened toward apex. Palpi dark reddish brown. Fore and middle legs light reddish brown, reddish yellow basally; hind leg reddish brown, hind coxa dark reddish brown; all tibia paler basally; all tarsi brownish yellow or light reddish brown. Fore wing faintly infuscate almost entirely. Pterostigma dark brown, yellow basally.

Male unknown.

Diagnosis. This species is similar to *Rh. micholitzi* Belokobylskij (Papua New Guinea), but differs from the latter in the second metasomal suture being very fine, the nervulus being distinctly postfurcal, the brachial cell being closed before recurrent vein, the sixth tergite being with narrow median emargination, the temple being shorter, the vertex being entirely striate, the pterostigma being yellow basally, and the second radiomedial cell being longer than brachial cell.

Etymology. From the name of province, type locality of species.

Distribution. China (Fujian).

Rhaconotus hei sp. nov.
(Figs 31–40)

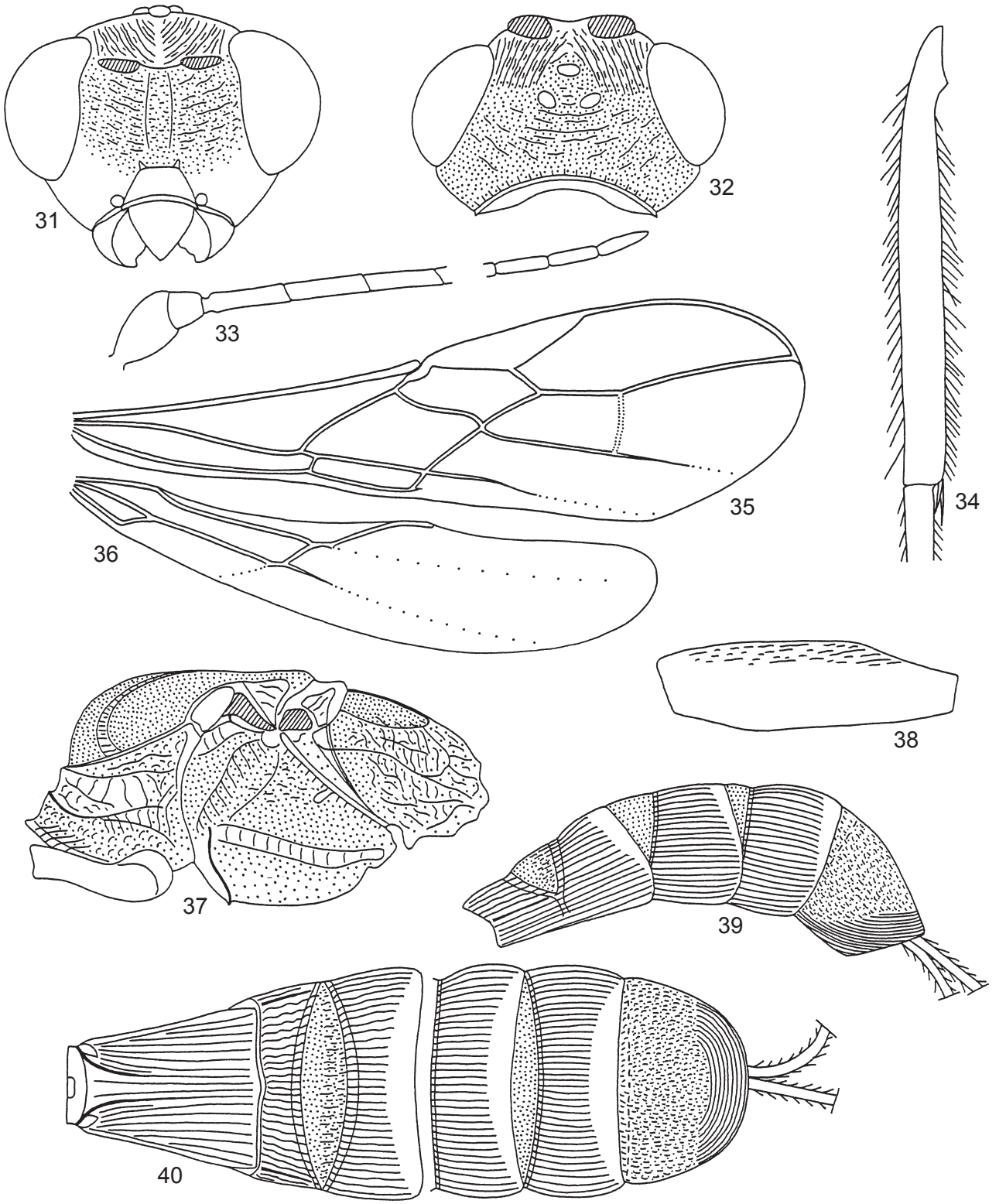
Type material. Holotype: female, China, Yunnan prov., Menglun, 10.IV.1981 (He Junhua), No 811907 (ZJUH).

Paratype. China: 1 female, Yunnan prov., Youle Shan, 17.IV.1981 (He Junhua), No 811731 (ZJUH); 1 female, Yunnan prov., Menglun, 10.IV.1981 (He Junhua), No 811677 (ZISP); 1 female, Yunnan prov., Youleshan, 17.IV.1981 (He Junhua), No 811733 (ZJUH); 1 female, Yunnan prov., Sanchahe, 12.IV.1981 (He Junhua), No 811931 (ZJUH). Vietnam: 1 female, prov. Ha Son Binh, Mai Chau, 3.XI.1990 (E. Nartshuk) (ZISP); 1 female, prov. Ha Son Binh, Da Bac, Tuly, shrubs, 17.X.1990 (S. Belokobylskij) (ZISP); 1 female, same locality, forest, 16–21.X.1990 (D.K. Long) (IEBR); 1 female, prov. Bac Thai, Phu Luong, Quang Chu, 16.IV.1986 (V. Trjapitzyn) (ZISP); 2 females, "Ha Giang, Yen Minh, Du Gia, 800 m, cay bui, 29-IV-2000, Kh. Long" (IEBR, ZISP); 1 female, "Vietnam, prov. Hoa Binh, Cao Phong, Ky Son", "28.IV.1991, leg. T.X. Lam", "swept in tea plantation" (HNHM). India: 2 females (1 female without metasoma), "India, W Bengal, Darjeeling Distr., Sukna, 180 m", "N 388, 22.V.1980, leg. Topal" (HNHM). Nepal: 1 female, "nr Birganj, Lothar, 450 ft, 17 Sept [19]67, Can. Nepal Exped." (CNCI).

Description. Female. Body length 3.2–4.6 mm; fore wing length 2.6–3.4 mm. Head width 1.7–1.8 times its median length. Head behind eyes strongly and almost linearly or weakly-roundly narrowed; temple 0.4–0.5 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL 0.9–1.2 times Od, 0.3–0.4 times OOL. Eye shortly and sparsely setose, weakly emarginated opposite antennal sockets, 1.2–1.3 times as high as broad. Malar space height 0.3–0.4 times height of eye, 0.8–0.9 times basal width of mandible. Face width almost equal to height of eye and 1.1–1.3 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated almost on lower level of eyes or weakly higher it. Hypoclypeal depression round, its width 0.8–1.0 times distance from edge of depression to eye. Occipital carina complete and fused with hypostomal carina upper base of mandible. Vertex weakly convex.

Antennae weakly setiform, 35–41-segmented, 1.3–1.5 times as long as body. Length of scapus 1.5–1.7 times its maximum width. First flagellar segment 3.7–4.3 times as long as its apical width, 1.0–1.1 times as long as second segment. Penultimate segment 3.5–4.5 times as long as wide, 0.6 times as long as first segment, 0.9–1.0 times as long as apical segment; the latter pointed apically.

Mesosoma. Length 1.8–1.9 times its height. Pronotum anteriorly almost straight (dorsal view), almost straight dorsally (lateral view). Pronotal carina distinct, widely



Figures 31–40. *Rhaconotus hei* sp. nov. (31) Head, frontal view; (32) head, dorsal view; (33) basal and apical segments of antenna; (34) hind tibia; (35) fore wing; (36) hind wing; (37) mesosoma, lateral view; (38) hind femur; (39) second-sixth tergites of metasoma, lateral view; (40) metasoma, dorsal view.

separated medially from posterior margin of pronotum; distances from carina to anterior and posterior margins of pronotum subequal. Mesoscutum highly and roundly raised above pronotum. Notauli rather shallow, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression distinct, deep, with high median carina, weakly and roundly directed posterolaterally, sparsely and very finely rugulose, about 0.3 times as long as weakly convex scutellum. Sternauli rather shallow, distinctly crenulate, weakly curved or straight, running along almost entire lower part of mesopleura. Prepectal carina distinct, rather wide ventrally, without widened lobes opposite fore coxae. Subalar depression shallow, narrow, crenulate. Metanotum with short narrow pointed tooth. Metapleural lobe long, rather wide and rounded apically.

Wings. Length of fore wing 3.3–3.5 times its maximum width. Radial cell not shortened. Metacarpus 1.3–1.5 times as long as pterostigma. Radial vein arising from or weakly behind middle of pterostigma. First radial abscissa forming very obtuse angle with second abscissa. Second radial abscissa 1.8–2.5 times as long as first abscissa, 0.4–0.45 times as long as third abscissa, 1.3–1.4 times as long as first radiomedial vein. Second radiomedial cell weakly widened distally, its length 2.3–2.5 (rarely 2.6) times maximum width, 1.0–1.2 times length of rather narrow brachial cell. First medial abscissa weakly S-shape. Recurrent vein weakly postfurcal, sometimes almost interstitial. Mediocubital vein very weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.3–0.8 times nervulus length. Brachial cell rather sharply and roundly closed on level of recurrent vein or (sometimes) before it; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) shortly present. Hind wing 4.8–5.3 times as long as wide. First costal abscissa 0.5–0.6 times as long as second abscissa. First abscissa of mediocubital vein 0.6–0.7 times as long as second abscissa. Recurrent vein short, unsclerotized for most part, postfurcal or interstitial.

Legs. Hind femur without distinct dorsal protuberance, its length 3.3–3.6 times maximum width. Hind tarsus 1.1 times as long as hind tibia. Hind tibia apically with 2 outside spines. Hind basitarsus 0.7–0.8 times combined length of second-fifth segments. Second tarsal segment 0.4 times as long as basitarsus, 2.0–2.5 times as long as fourth segment, 1.0–1.3 times as long as fifth segment (without pretarsus).

Metasoma 1.1–1.2 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 2.0–2.2 times its basal width; its length 1.1–1.25 times apical width. Second tergite without basal area, with distinct, deep, and concavely curved transverse furrow and distinctly separated lenticular apical area, this area 1.5–1.6 (rarely 1.3) times as long as rest part of tergite. Median length of second tergite 0.5–0.6 times its basal width, 1.5 times length of third tergite. Second suture deep and wide. Sixth tergite rather large, regularly and weakly rounded in posterior margin, without median emargination and posteroventral lobes. Sixth tergite 1.2–1.5 times as long as fifth tergite, 1.3–1.7 times as long as fourth tergite. Ovipositor sheath 0.8–1.0 times as long as metasoma, 3.0–3.6 (rarely 4.0) times as long as first tergite, 1.3–1.6 times as long as mesosoma, 0.6–0.8 times as long as fore wing.

Sculpture and pubescence. Vertex densely granulate, rugulose-striate in anterior ⅔ or almost entirely, sometimes rugae fine. Frons usually with coarse, rather oblique and undulate striae, with rugulosity between striae. Face densely and sometimes finely rugulose-reticulate, partly with granulation. Temple smooth, finely sculptured in posterior half. Sides of pronotum entirely rugose-reticulate. Mesoscutum and scutellum densely granulate, mesoscutum with 2 more or less distinct convergent striae medioposteriorly and fine rugosity between them. Mesopleura densely and finely granulate with rugulosity in upper ⅓, smooth or almost smooth in lower ⅔. Metapleura reticulate-granulate. Propodeum with distinctly marginate large basolateral areas, with median carina in basal ⅓–1/5; basolateral areas densely granulate for most part, rest part of propodeum coarsely reticulate-rugose. Hind coxa finely granulate entirely; hind femur smooth, finely coriaceous-aciculate dorsally. First tergite with dorsal carinae in basal half or complete, entirely striate. Second tergite entirely (except sometimes reticulate-granulate anterior half of apical area), third-fifth tergites mostly (except smooth posterior narrow part) longitudinally striate. Sixth tergite densely reticulate-granulate in basal 3/5–⅓, coarsely and semicircularly striate in apical ⅔–2/5. Second-fifth tergites laterally with distinct, almost complete and dense longitudinal striation. Vertex with short, rather dense, semi-erect hairs directed forward. Mesoscutum entirely with dense semi-erect short yellowish hairs. Hind tibia with semi-erect dense short yellow hairs dorsally; length of these hairs 0.5–0.55 times maximum width of hind tibia.

Colour. Body reddish brown or dark reddish brown, rarely light reddish brown; mesosoma sometimes paler; head black dorsally, yellowish brown around eye. Antenna brown, lighter basally, scapus and pedicel brownish yellow. Palpi and legs yellow (except dark fifth segment). Ovipositor sheath dark brown almost entirely. Wings faintly infuscate. Pterostigma yellow or light brown.

Male unknown.

Diagnosis. This species is similar to *Rh. menippus* Nixon because the mesoscutum densely and entirely setose, the metasoma with 6 visible tergites and the second tergite with large apical area. The new species differs from the latter in the temple being shorter, the head being strongly narrowed behind eyes, the vertex being

with more or less strong rugulosity or striation, the sixth tergite being semicircularly striate in posterior ½–²/₅, the second radiomedial cell and ovipositor being long.

Etymology. This species is named in honour of Prof. Junhua He, the well-known Chinese hymenopterologist and teacher of the second author.

Distribution. China (Yunnan); Vietnam, India, Nepal.

Rhaconotus heterotrichus sp. nov.
(Figs 41–50)

Type material. Holotype: female, Vietnam, prov. Vinh Phu, Tam Dao, 1000 m, forest, 11.XI.1990 (S. Belokobylskij) (ZISP).

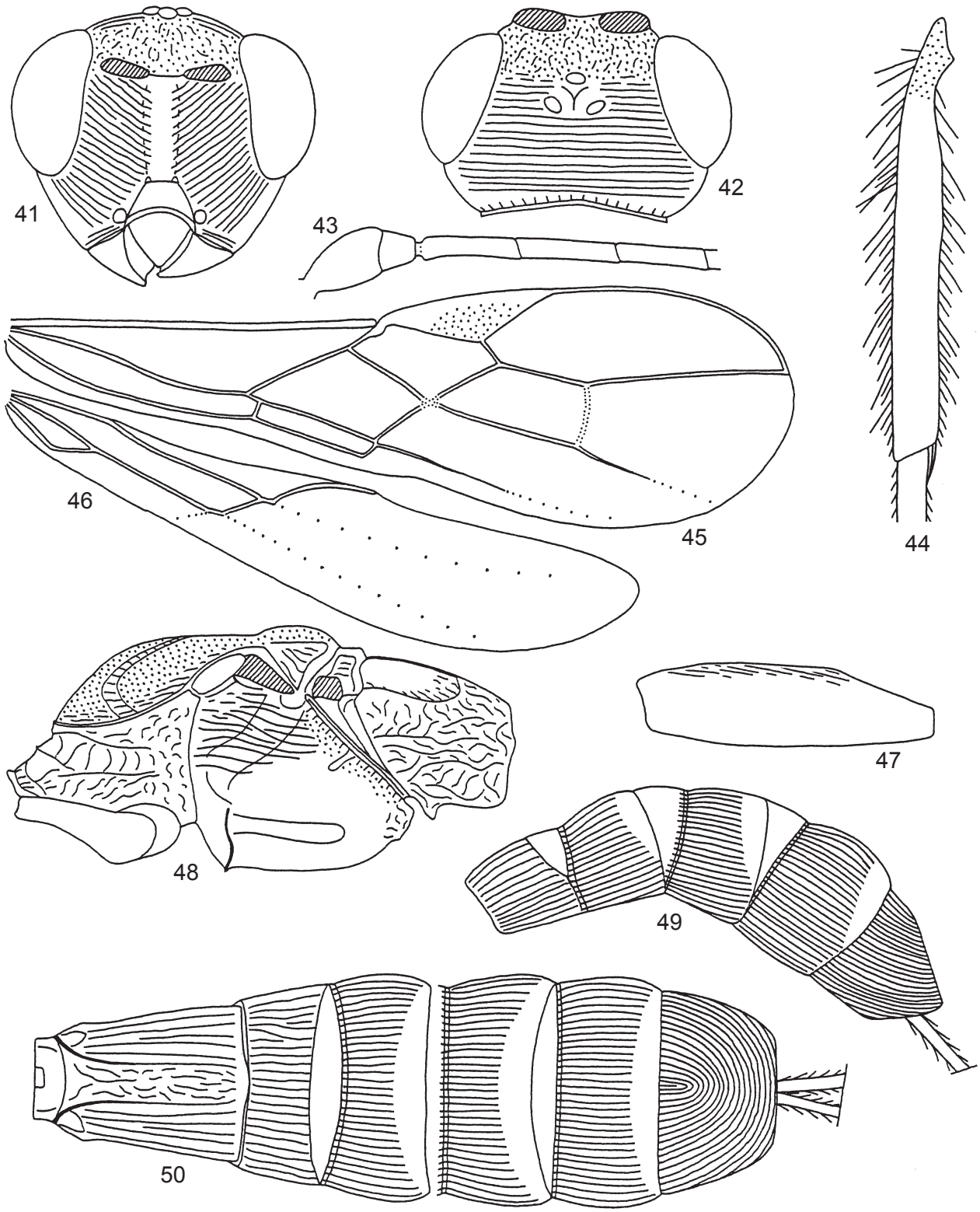
Paratypes. China: 1 female, Yunnan prov., Menglun, 10.IV.1981 (He Junhua), No 811904 (ZJUH); 1 female, Yunnan prov., Ruili, 29.IV.1981 (He Junhua), No 812369 (ZISP); 1 female, Zhejiang prov., Gutianshan, 20.VII.1992 (Chen Xuexin), No 923732 (ZJUH). 5 females, Fujian prov., Chongan, 29.IX.1981 (Huang Juchang), N 20004162, No 20004164, No 20004165, No 20004166, No 20004168 (ZJUH, ZISP); 1 female, Fujian prov., Chongan, 20.VI.1982 (Huang Juchang), No 20004174 (ZJUH); 1 female, Fujian prov., Guilin, 29.VI.1980 (Huang Juchang), No 20004031 (ZJUH); 1 female, Fujian prov., Shaowu, 6.VI.1945 (Zhao Xiufu), No 20003991 (ZJUH); 1 female, Fujian prov., Nanjing, 23.V.1991 (Liu Changmin), No 20006092 (ZJUH). Vietnam: 3 females, prov. Vinh Phu, Tam Dao, 1000 m, forest, 11 & 16.XI.1990 (S. Belokobylskij) (ZISP); 5 females, 5 males, prov. Hanoi, 70 km NW Hanoi, Ba Vi, forest, meadow, 22 & 24.XI.1990 (S. Belokobylskij) (ZISP, MIZW); 5 females, 1 male, prov. Ha Son Binh, Ky Son, Cao Phong, forest, 27.X.1990 (S. Belokobylskij) (ZISP, ZJUH, TAMU)); 5 females, 1 male, prov. Ha Son Binh, Mai Chau, forest, 1–3.XI.1990 (S. Belokobylskij) (ZISP, HNHM); 2 females, same locality, 1 & 2.XI.1990 (E. Nartshuk) (ZISP); 1 female, prov. Gia Lai – Con Tum, 20 km N Buon-Luoi, Tram Lap, 1–14.XII.1988 (A. Sharkov) (ZISP). Thailand: 1 female, Suphanburi, Khao Yai National Park, Haew Narok Waterfall, 2.VII.1990 (J. Heraty) (TAMU); 1 male, Suphanburi, Khao Yai National Park, Khong Kheo Waterfall, 30.VI.1990 (J. Heraty) (ZISP). Malaysia: 1 female, Selangor, 16th mile Gombok, 5–8.X.1989 (R. Wharton) (TAMU); 1 female, 2 males, Selangor, Hulu Langat, 16.X.1989 (R. Wharton) (TAMU, ZISP); 1 female, Sarawak, Long Lama, 13.II.1987 (A.T. Finnamore & C. Baxfield) (CNCI); 1 male, Pahang, Fraser's Hill, 27.X–3.XI.1977 (B. Bendell) (CNCI); 1 female, "SE Sabah, nr. Danum Valley, Field C. WO, c. 150 m, Mal. trap 5, 20–26.III.1987 RMNH, C. v. Achterberg" (RMNH).

Description. Female. Body length 2.5–4.1 mm; fore wing length 2.3–3.1 mm. Head width 1.5–1.7 times its median length. Head behind eyes roundly narrowed; temple 0.4–0.5 times as long as transverse diameter of eye. Ocelli small, in triangle with base 1.15–1.25 times its sides; POL 1.0–1.3 times Od, 0.4–0.6 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.2–1.3 times as high as broad. Malar space height 0.35–0.4 times height of eye, 0.8–1.0 times basal width of mandible. Face width 0.9–1.0 times height of eye and 1.0–1.2 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated upper than lower level of eyes. Hypoclypeal depression round, its width 0.7–0.8 times distance from edge of depression to eye. Occipital carina fused with hypostomal carina upper base of mandible. Vertex distinctly convex.

Antennae almost filiform, 23–32-segmented, 1.3–1.5 times as long as body. Length of scapus 1.4–1.6 times its maximum width. First flagellar segment 4.0–4.5 times as long as its apical width, 0.85–1.0 times as long as second segment. Penultimate segment 4.0–5.0 times as long as wide, 0.7–0.9 times as long as first segment and 0.7–0.8 times as long as apical segment; the latter pointed apically.

Mesosoma. Length 1.9–2.0 times its height. Pronotum anteriorly almost straight (dorsal view), more or less straight dorsally (lateral view). Pronotal carina rather distinct, widely separated medially from posterior margin of pronotum; distances from carina to anterior and posterior margins of pronotum usually subequal. Mesoscutum rather highly and gently-roundly raised above pronotum. Notauli rather deep, complete and crenulate, with granulation partly. Median lobe of mesoscutum without median furrow. Prescutellar depression rather deep, weakly and roundly directed posterolaterally, with median carina, rugulose-granulate, 0.3–0.4 times as long as weakly convex scutellum. Sternauli rather deep, but more or less shallow anteriorly, smooth, almost straight, running along anterior ⅔ of lower part of mesopleura. Prepectal carina distinct, wide ventrally, without widened lobes opposite fore coxae. Subalar depression rather shallow, wide, coarsely striate. Metanotum with short pointed tooth. Metapleural lobe distinct, rather narrow and rounded apically.

Wings. Length of fore wing 3.1–3.4 times its maximum width. Radial cell not shortened. Metacarpus 1.4–1.5 times as long as pterostigma. Radial vein arising behind middle of pterostigma. First radial abscissa forming distinctly obtuse angle with second abscissa. Second radial abscissa 2.2–3.0 times as long as first abscissa, 0.4–0.5 times as long as third abscissa, 0.9–1.3 times as long as first radiomedial vein. Second radiomedial cell almost not or weakly widened distally, its length 2.7–3.3 times maximum width, 1.3–1.5 times length of rather narrow brachial cell. First medial abscissa almost straight or very weakly curved. Recurrent vein weakly antefurcal or interstitial, rarely – weakly postfurcal.



Figures 41–50. *Rhaconotus heterotrichus* sp. nov. (41) Head, frontal view; (42) head, dorsal view; (43) five basal segments of antenna; (44) hind tibia; (45) fore wing; (46) hind wing; (47) hind femur; (48) mesosoma, lateral view; (49) second-sixth tergites of metasoma, lateral view; (50) metasoma, dorsal view.

Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.7–1.0 times nervulus length. Brachial cell rather sharply and roundly or almost linearly closed on level of recurrent vein; posterior bulla on brachial vein indistinct; posterior abscissa of anal vein (behind brachial vein) shortly present or indistinct. Parallel vein interstitial or almost interstitial, rarely arising from anterior 1/6 of distal vein of brachial cell. Hind wing 5.0–5.2 times as long as wide. First costal abscissa 0.5–0.6 times as long as second abscissa. First abscissa of mediocubital vein 0.55–0.7 times as long as second abscissa. Recurrent vein short, unsclerotized and antefurcal.

Legs. Hind femur with dorsal protuberance, its length about 3.5 times maximum width. Hind tarsus almost as long as hind tibia. Hind tibia apically with 2–3 outside spines. Hind basitarsus 0.8–0.9 times combined length of second-fifth segments. Second tarsal segment 0.3–0.4 times as long as basitarsus, 1.8–2.0 times as long as fourth segment, 0.9–1.1 times as long as fifth segment (without pretarsus).

Metasoma 1.2 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 2.0–2.3 times its basal width; its length 1.1–1.2 (rarely 1.3) times apical width, sometimes – almost equal to it. Second tergite without basal area, without transverse furrow, but with distinct narrow and usually smooth or finely longitudinally striate transverse apical area, this area 0.4–0.5 times as long as rest part of tergite. Median length of second tergite 0.5–0.7 times its basal width, 1.3–1.5 times length of third tergite. Second suture deep and rather wide. Sixth tergite rather long, almost straight or weakly curved in posterior margin, without median emargination and posteroventral lobes. Sixth tergite 1.2–1.4 (sometimes 0.8) times as long as fifth tergite, 1.3–1.7 times as long as fourth tergite (rarely – almost equal to it). Ovipositor sheath 0.5–0.65 times as long as metasoma, 2.0–2.3 times as long as first tergite, 0.7–0.9 times as long as mesosoma, 0.3–0.4 times as long as fore wing.

Sculpture and pubescence. Vertex densely transversely and usually weakly or (sometimes) distinctly undulately striate, with fine or very fine additional ground sculpture between striae, often rugose anteriorly; rarely striation fine and incomplete; usually narrowly smooth posteriorly along occipital carina. Frons densely granulate, often with more or less fine striation in anterior half, rarely (in large specimens) with distinct rugulosity. Temple smooth or (in large specimens) finely vertically striate in posterior half. Face densely rugulose-striate almost entirely. Sides of pronotum coarsely rugulose-striate, with more or less marginate, narrow and crenulate lateral areas. Mesoscutum densely granulate, rugulose in narrow medioposterior area, without rugae along notauli. Scutellum finely granulate. Mesopleura usually coarsely rugose-striate in upper ⅓–½, almost smooth in lower ½–⅔. Metapleura coarsely rugulose-reticulate. Propodeum with distinctly marginate, finely coriaceous or smooth and usually with fine rugulosity posteriorly basolateral areas, rarely with marginate narrow areola, with median carina in basal ⅓–½; rest part of propodeum sparsely and coarsely rugose-reticulate. Hind coxa densely concentrically striate dorsally entirely or in posterior half only, almost smooth on rest part; hind femur smooth, finely striate dorsally and sometimes laterally. First tergite with complete dorsal carinae, striate, but rugose between carinae at least basally. Second tergite (except usually smooth apical area), third-fifth tergites for most part (except smooth apical ¼–²/₅) distinctly longitudinally striate; sometimes (in large specimens) apical area of second tergite finely longitudinally striate almost entirely. Sixth tergite entirely semicircularly striate. Second-fifth tergites laterally entirely and densely striate. Vertex with rather short sparse semi-erect light hairs directed forward. Mesoscutum entirely with dense semi-erect short yellowish hairs and with additional long hairs marginally and along notauli. Mesopleura widely glabrous submedially, rather densely setose marginally. Metapleural lobe with dense short white pubescence. Hind tibia with semi-erect dense light hairs dorsally; length of these hairs 0.8–1.2 times maximum width of hind tibia.

Colour. Body black or dark reddish brown, with reddish spots; sometimes head in lower half, apex of third, bases and apecis of fourth and fifth tergites reddish; often pro- and mesomesosoma for most part dark red. Antenna light reddish brown or brownish yellow, faintly darkened toward apex, sometimes 2 basal segments brownish dorsally or entirely. Palpi yellow or pale yellow. Legs brownish yellow, hind coxa reddish, hind tibia basally faintly infuscate at short distance, but often (Chinese specimens) – distinctly infuscate. Ovipositor sheath black or dark brown, yellowish in basal ⅓–½. Wings faintly infuscate. Pterostigma brown, yellow widely basally and narrowly apically.

Male unknown.

Diagnosis. This species is similar to *Rh. signipennis* Walker, but differs from the latter in the vertex being striate, the pterostigma being brown medially, the mesopleura being smooth at lower ½–⅔, the first tergite being long, and the second tergite being without basal area. This new species can be similar to species of *Ipodoryctes* Granger, but differs from the most similar *I. annulicornis* Belokobylskij in the ovipositor being short, the recurrent vein being antefurcal or interstitial, the parallel vein being usually interstitial, the apical segments of antenna being dark, and the second tergite being without basal area.

Etymology. From Greece "heteros" meaning "various" and "trichos" meaning "hair".

Distribution. China (Yunnan, Zhejiang, Fujian); Vietnam, Thailand, Malaysia.

Rhaconotus intermedius sp. nov.
(Figs 51–60)

Type material. Holotype: female, Vietnam, prov. Gia Lai – Con Tum, 20 km N Buon-Luoi, Tram Lap, 21–30.XI.1988 (A. Sharkov) (ZISP).

Paratypes. China: 1 female, Yunnan prov., Jinghong, 9.IV.1981 (He Junhua), No 811672 (ZJUH); 1 female, Yunnan prov., Menglun, 10.IV.1981 (He Junhua), No 811903 (ZISP). Vietnam: 1 female, prov. Ha Son Binh, Da Bac, Tuly, road, bamboo, 21.X.1990 (S. Belokobylskij) (ZISP); 1 female, same locality, shrubs, 17.X.1990 (S. Belokobylskij) (ZISP); 1 male, prov. Bac Thai, Phu Luong, Quang Chu, 20 km N Thai Nguyen, 16–23.IV.1986 (A. Sharkov) (ZISP).

Description. Female. Body length 3.0–3.7 mm; fore wing length 2.6–3.1 mm. Head width 1.5–1.6 times its median length. Head behind eyes roundly narrowed; temple 0.5–0.6 times as long as transverse diameter of eye. Ocelli medium size, in triangle with base 1.1–1.15 times its sides; POL 0.8–1.2 times Od, 0.3–0.4 times OOL. Eye sparsely and very shortly setose, weakly emarginated opposite antennal sockets, 1.15–1.2 times as high as broad. Malar space height 0.35–0.4 times height of eye, 0.8–0.9 times basal width of mandible. Face width almost equal to height of eye and 1.2 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated almost on lower level of eyes or slightly higher it. Hypoclypeal depression round, its width 0.8–1.0 times distance from edge of depression to eye. Occipital carina fused with hypostomal carina upper base of mandible. Vertex convex.

Antennae weakly setiform, 33–37-segmented, 1.4–1.5 times as long as body. Length of scapus 1.6–1.8 times its maximum width. First flagellar segment 4.0–4.5 times as long as its apical width, 0.9–1.0 times as long as second segment. Penultimate segment about 4.0 times as long as wide, 0.7 times as long as first segment, 0.9 times as long as apical segment; the latter pointed apically.

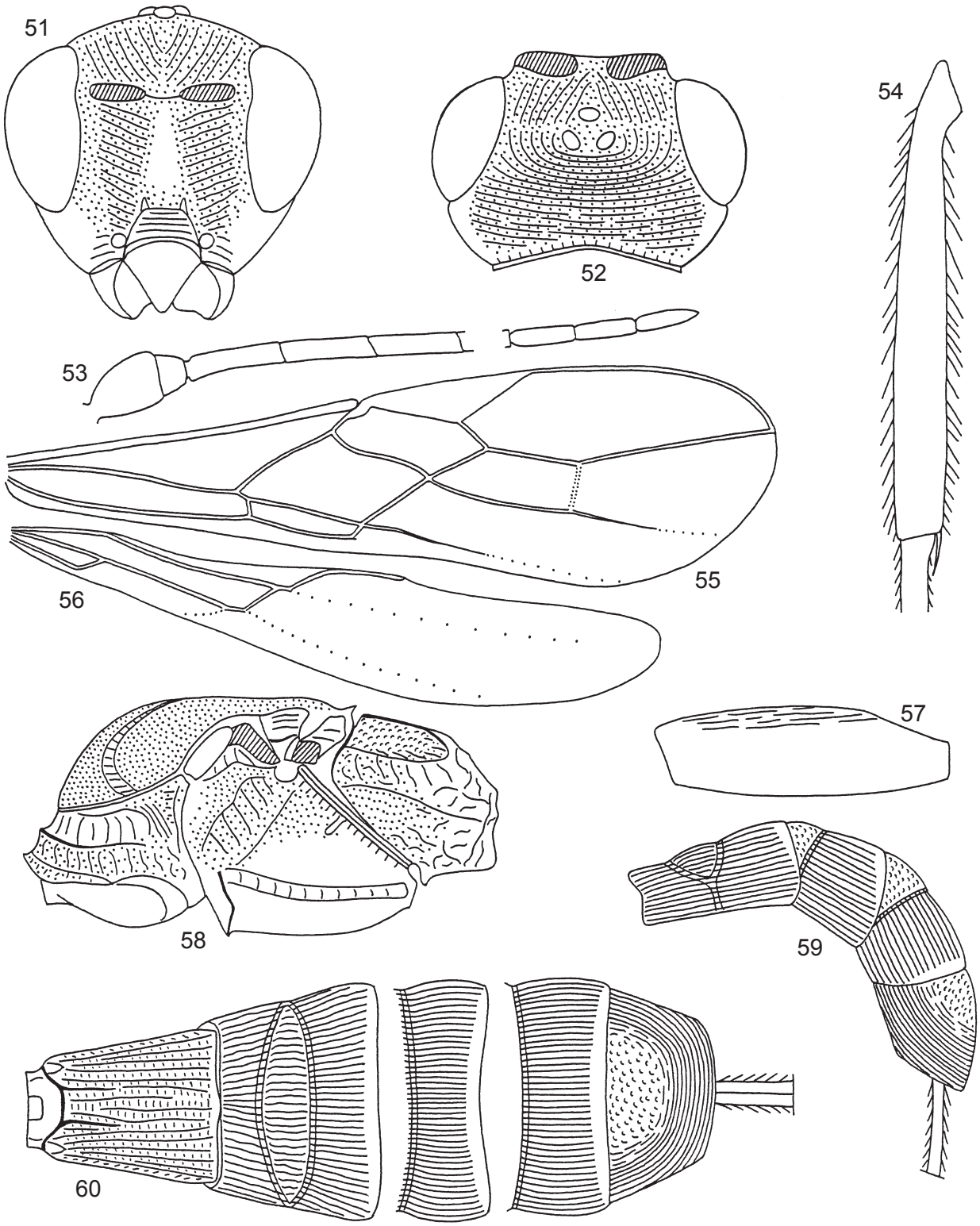
Mesosoma. Length about twice its height. Pronotum anteriorly straight (dorsal view), more or less straight dorsally (lateral view). Pronotal carina distinct, widely separated medially from posterior margin of pronotum; distances from carina to anterior and posterior margins of pronotum subequal. Mesoscutum highly and roundly raised above pronotum. Notauli rather deep, wide, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression rather deep, with median carina, weakly and roundly or almost linearly directed posterolaterally, rather finely and sometimes sparsely rugulose, 0.25–0.3 times as long as weakly convex scutellum. Sternauli rather shallow, crenulate, weakly curved, running along almost entire lower part of mesopleura. Prepectal carina distinct, without widened lobes opposite fore coxae. Subalar depression shallow, narrow, crenulate. Metanotum with short pointed tooth medioposteriorly. Metapleural lobe distinct, rather narrow and rounded apically.

Wings. Length of fore wing about 3.5 times its maximum width. Radial cell not shortened. Metacarpus 1.3–1.5 times as long as pterostigma. Radial vein arising from middle of pterostigma. First radial abscissa forming very obtuse angle with second abscissa. Second radial abscissa 2.0–2.7 times as long as first abscissa, 0.4 times as long as third abscissa, 1.3–1.4 times as long as first radiomedial vein. Second radiomedial cell not widened distally, its length 2.4–3.0 times maximum width, 1.1–1.2 times length of narrow brachial cell. First medial abscissa S-shape. Recurrent vein interstitial, weakly antefurcal or postfurcal. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.7–1.0 times nervulus length. Brachial cell rather sharply and roundly closed at level of recurrent vein or before it; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) present, but usually very fine. Hind wing 5.5–5.8 times as long as wide. First costal abscissa 0.55–0.6 times as long as second abscissa. First abscissa of mediocubital vein 0.6–0.7 times as long as second abscissa. Recurrent vein short, unsclerotized, antefurcal.

Legs. Hind femur without distinct dorsal protuberance, its length 3.2–3.5 times maximum width. Hind tarsus 1.1 times as long as hind tibia. Hind basitarsus 0.7–0.8 times combined length of second-fifth segments. Second tarsal segment 0.4 times as long as basitarsus, 2.0–2.2 times as long as fourth segment, 1.2–1.3 times as long as fifth segment (without pretarsus).

Metasoma 1.0–1.2 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 2.0–2.2 times its basal width; its length 1.1–1.3 times apical width. Second tergite without basal area, with distinct, deep, and concavely curved transverse furrow and distinctly separated narrow lenticular apical area, this area medially 1.3–1.6 times as long as rest part of tergite. Median length of second tergite 0.55–0.6 times its basal width, 1.6–1.7 times length of third tergite. Second suture deep and wide. Sixth tergite rather long, almost straight in posterior margin, without median emargination and posteroventral lobes. Sixth tergite 1.1–1.6 times as long as fifth tergite, 1.4–1.6 times as long as fourth tergite. Ovipositor sheath 0.9–1.1 times as long as metasoma, 3.0–4.0 times as long as first tergite, 1.3–1.7 times as long as mesosoma, 0.6–0.8 times as long as fore wing.

Sculpture and pubescence. Vertex finely or very finely striate, with dense granulation between striae, sometimes striation absent. Frons distinctly obliquely or almost longitudinally striate, with fine reticulation



Figures 51–60. *Rhaconotus intermedius* sp. nov. (51) Head, frontal view; (52) head, dorsal view; (53) basal and apical segments of antenna; (54) hind tibia; (55) fore wing; (56) hind wing; (57) hind femur; (58) mesosoma, lateral view; (59) second-sixth tergites of metasoma, lateral view; (60) metasoma, dorsal view.

between striae. Face granulate-striate, almost smooth medially. Temple smooth, finely granulate-coriaceous upper in posterior ½–⅔. Sides of pronotum rugose-granulate, with marginate, wide, rather shallow, sparsely crenulate depression. Mesoscutum and scutellum densely granulate, mesoscutum with 2 convergent striae medioposteriorly and fine rugosity between them. Mesopleura granulate-coriaceous in upper half, smooth in lower half. Metapleura densely granulate with rugosity partly. Propodeum with distinctly marginate basolateral areas, which is granulate-coriaceous, but almost smooth basally, with median carina in basal ⅓; rest part of propodeum coarsely rugose-reticulate. Hind coxa granulate; hind femur smooth, finely striate dorsally. First tergite with dorsal carinae in basal half. First-fifth tergites rather densely striate, with fine rugulosity between striae partly, apical area of second tergite sometimes densely rugulose-reticulate with striation. Third-fifth tergites smooth apically. Sixth tergite punctulate-reticulate in basal ⅓–½ (sometimes – finely), distinctly and semicircularly striate in apical ⅓–½. Second-fifth tergites laterally with distinct and dense longitudinal striation. Vertex with short sparse semi-erect hairs directed forward. Mesoscutum entirely with dense semi-erect short yellowish hairs. Hind tibia with semi-erect dense hairs dorsally; length of these hairs 0.4–0.9 times maximum width of hind tibia.

Colour. Body light reddish brown, darker dorsally, or dark reddish brown with light promesosoma and head ventrally. Antenna brown to dark brown for most part, yellowish brown 2 basal segments or antenna in basal ¼. Palpi pale yellow. Legs yellow, darker apically. Ovipositor sheath black apically or for most part, light reddish brown basally or subbasally. Wings faintly infuscate. Pterostigma yellow or light brown.

Male. Body length 3.6 mm; fore wing length 2.8 mm. Vertex distinctly striate. Length of first tergite 1.4 times its apical width. Median length of apical area of second tergite 0.8 times length of rest part of tergite. Length of second tergite 0.8 times its basal width, almost twice length of third tergite. Sixth tergite as long as fifth and 1.1 times as long as fourth tergites. Sixth tergite entirely longitudinally striate. Basolateral areas of propodeum rugulose in posterior half, coriaceous in anterior half. Otherwise similar to female.

Diagnosis. This species is similar to *Rh. hei* sp. nov., but differs from the latter in the temple being longer and roundly narrowed, and the vertex being finely transversely striate. The new species is also similar to *Rh. menippus* Nixon, differs in the ovipositor and the second radiomedial cell being long, the vertex being with striation, the apical area of second tergite being wider, and sixth tergites striate in apical half.

Etymology. From Latin "intermedius" meaning "being in the middle".

Distribution. China (Yunnan); Vietnam.

Rhaconotus ipodoryctoides sp. nov.
(Figs 61–70)

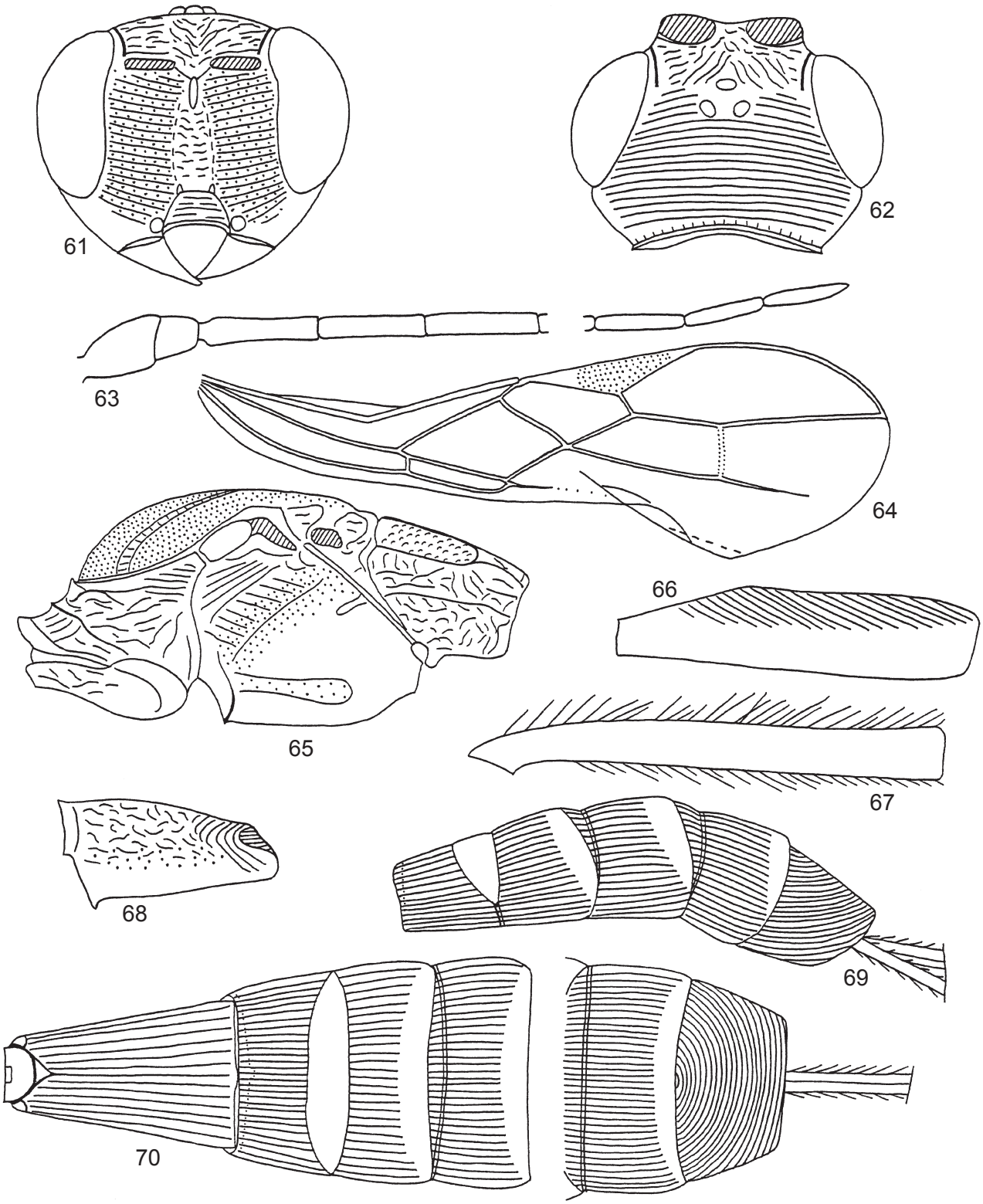
Type material. Holotype: female, China, Fujian prov, Tongmu, 10.IX.1982 (Xu Jianfei), No 20004169 (ZJUH).

Description. Female. Body length 3.3 mm; fore wing length 3.0 mm. Head width 1.5 times its median length. Head behind eyes strongly and roundly narrowed; temple 0.5 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL almost equal to Od, 0.4 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.2 times as high as broad. Malar space height 0.4 times height of eye, 0.8 times basal width of mandible. Face width almost equal to height of eye and 1.1 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated distinctly upper lower level of eyes. Hypoclypeal depression round, its width 0.75 times distance from edge of depression to eye, 0.3 times width of face. Occipital carina fused with hypostomal carina upper base of mandible. Vertex convex.

Antennae slender, almost filiform, 30-segmented, 1.5 times as long as body. Length of scapus 1.7 times its maximum width. First flagellar segment about 5.0 times as long as its apical width, almost as long as second segment. Penultimate segment 5.5 times as long as wide, 0.7 times as long as first segment and 0.9 times as long as apical segment; the latter pointed apically.

Mesosoma. Length 2.1 times its height. Pronotum anteriorly straight (dorsal view), more or less straight dorsally (lateral view). Pronotal carina high, widely separated medially from posterior margin of pronotum; distances from carina to anterior and posterior margins of pronotum subequal. Mesoscutum rather highly and gently-roundly raised above pronotum. Notauli rather deep, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression rather deep, weakly and roundly directed posterolaterally, with 3 carinae, rugulose-granulate, 0.4 times as long as scutellum. Scutellum weakly convex and with lateral carinae. Sternauli rather shallow, finely granulate, straight, running along anterior ⅔ of lower part of mesopleura. Prepectal carina distinct, wide ventrally, without widened lobes opposite fore coxae. Subalar depression shallow, wide, striate-granulate. Mesopleural suture almost smooth for most part. Metanotum with very short obtuse tooth. Metapleural lobe distinct, rather narrow and rounded apically.

Wings. Length of fore wing 3.5 times its maximum width. Radial cell not shortened. Metacarpus 1.3 times as long as pterostigma. Radial vein arising distinctly behind middle of pterostigma. First radial abscissa forming very obtuse angle with second abscissa. Second radial abscissa 3.0 times as long as first abscissa, 0.55 times as long as third abscissa, 1.2 times as long



Figures 61–70. *Rhaconotus ipodoryctoides* sp. nov. (61) Head, frontal view; (62) head, dorsal view; (63) basal and apical segments of antenna; (64) fore wing; (65) mesosoma, lateral view; (66) hind femur; (67) hind tibia; (68) hind coxa; (69) second-sixth tergites of metasoma, lateral view; (70) metasoma, dorsal view.

as first radiomedial vein. Second radiomedial cell not widened distally, its length 3.1 times maximum width, 1.4 times length of rather narrow brachial cell. First medial abscissa weakly S-shape. Recurrent vein almost interstitial. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.8 times nervulus length. Brachial cell rather sharply and almost linearly closed weakly behind level of recurrent vein; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) indistinct. Parallel vein almost interstitial. Hind wing about 5.0 times as long as wide. First costal abscissa 0.5 times as long as second abscissa. First abscissa of mediocubital vein 0.4 times as long as second abscissa. Recurrent vein rather short, unsclerotized and distinctly antefurcal.

Legs. Hind femur with dorsal protuberance, its length 4.2 times maximum width. Hind tarsus almost as long as hind tibia. Hind basitarsus 0.8 times combined length of second-fifth segments. Second tarsal segment 0.35 times as long as basitarsus, 1.8 times as long as fourth segment, as long as fifth segment (without pretarsus).

Metasoma 1.2 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 2.5 times its basal width; its length 1.5 times apical width. Second tergite without basal area, without transverse furrow, but with distinct rather narrow smooth transverse apical area, this area 0.7 times as long as rest part of tergite. Median length of second tergite 0.55 times its basal width, 1.2 times length of third tergite. Second suture deep and rather narrow. Sixth tergite rather long, almost straight in posterior margin, without median emargination and posteroventral lobes. Sixth tergite 1.2 times as long as fifth tergite, 1.2 times as long as fourth tergite. Ovipositor sheath 0.9 times as long as metasoma, 2.8 times as long as first tergite, 1.3 times as long as mesosoma, 0.55 times as long as fore wing.

Sculpture and pubescence. Vertex entirely densely transversely and regularly striate. Frons densely rugose. Temple smooth for most part. Face densely striate laterally, densely rugulose medially and between striae. Sides of pronotum coarsely granulate-rugose, with indistinctly marginate and rugose median furrow. Mesoscutum densely granulate with rugulosity at small medioposterior area, without rugae along notauli. Scutellum densely granulate. Mesopleura smooth on below ⅔, but finely granulate anteriorly. Metapleura coarsely rugulose-reticulate. Propodeum with distinctly marginate and finely coriaceous basolateral areas, with marginate wide areola, with median carina in basal half; rest part of propodeum densely rugose-reticulate. Hind coxa densely rugulose-granulate in basal ⅔, transversely striate in apical ⅓ dorsally, almost smooth laterally. Hind femur striate in upper half and smooth in lower half. Hind tibia striate for most part, smooth dorsally. First tergite with distinct complete dorsal carinae, entirely striate. Second tergite for most part (except smooth apical area), third-fifth tergites in basal ⅔ (except smooth apical ⅓) longitudinally striate. Sixth tergite densely concentrically striate entirely. Second-fifth tergites laterally entirely and densely striate. Vertex with rather long dense semi-erect yellowish hairs directed forward. Mesoscutum entirely with dense semi-erect mostly short yellowish hairs. Mesopleura entirely and rather densely setose. Metapleural lobe with dense short white pubescence. Hind tibia with long and short semi-erect and rather dense whitish hairs dorsally; length of long hairs 1.0–1.4 times maximum width of hind tibia.

Colour. Head reddish brown, black dorsally. Mesosoma reddish brown, propodeum and metapleura dark reddish brown. Metasoma dark reddish brown, sixth tergite in apical half reddish yellow. Antenna yellowish brown in basal ⅔, darkened in apical ⅓. Palpi yellow. Legs brownish yellow, hind coxa light reddish brown, hind tibia basally light, basitarsus and fifth segments of all tarsi dark reddish brown. Ovipositor sheath black to dark reddish brown, light reddish brown basally. Fore wings faintly infuscate. Pterostigma brown, yellow in basal ⅓.

Male unknown.

Diagnosis. This species is similar to *Rh. heterotrichus* sp. nov. and differs in the ocelli being in almost equilateral triangle, the hind femur being slender, the first tergite and ovipositor being long, the vertex being with dense hairs, the mesopleura being entirely setose, and the hind tibia being pale basally.

Etymology. From the generic name "*Ipodoryctes*" and suffix "oides".

Distribution. China (Fujian).

Rhaconotus iterabilis sp. nov.
(Figs 71–80)

Type material. Holotype: female, China, Henan prov., Jigong Shan, 12.VII.1991 (Chen Xuexin), No 974897 (ZJUH).

Paratypes. 1 female, China, Guizhou prov., Dushan, 6.V.1980, (Zhou Shenzheng), No 860589 (ZJUH); 1 female, Russia, Primorsk Territory, 50 km SEE Ussuriysk, Suvorovka River, cretaceous slope, 13.VI.1993 (S. Belokobylskij) (ZISP).

Description. Female. Body length 2.8–3.8 mm; fore wing length 2.0–2.9 mm. Head width 1.3–1.5 times its median length. Head behind eyes roundly narrowed; temple 0.55–0.7 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL 1.2–1.3 times Od, 0.3–0.35 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.2–1.3

times as high as broad. Malar space height 0.3–0.4 times height of eye, 0.75–0.9 times basal width of mandible. Face width almost equal to height of eye and 1.2 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated distinctly upper lower level of eyes. Hypoclypeal depression round, its width 0.8–1.0 times distance from edge of depression to eye, 0.35–0.4 times width of face. Occipital carina fused with hypostomal carina distinctly upper base of mandible by additional coarse rugae. Vertex distinctly convex.

Antennae weakly setiform, 33–37-segmented, about 1.3 times as long as body. Length of scapus 1.4–1.5 times its maximum width. First flagellar segment 4.5–5.0 times as long as its apical width, 0.9–1.0 times as long as second segment. Penultimate segment 4.0–4.5 times as long as wide, 0.65–0.7 times as long as first segment, 0.9 times as long as apical segment; the latter pointed apically.

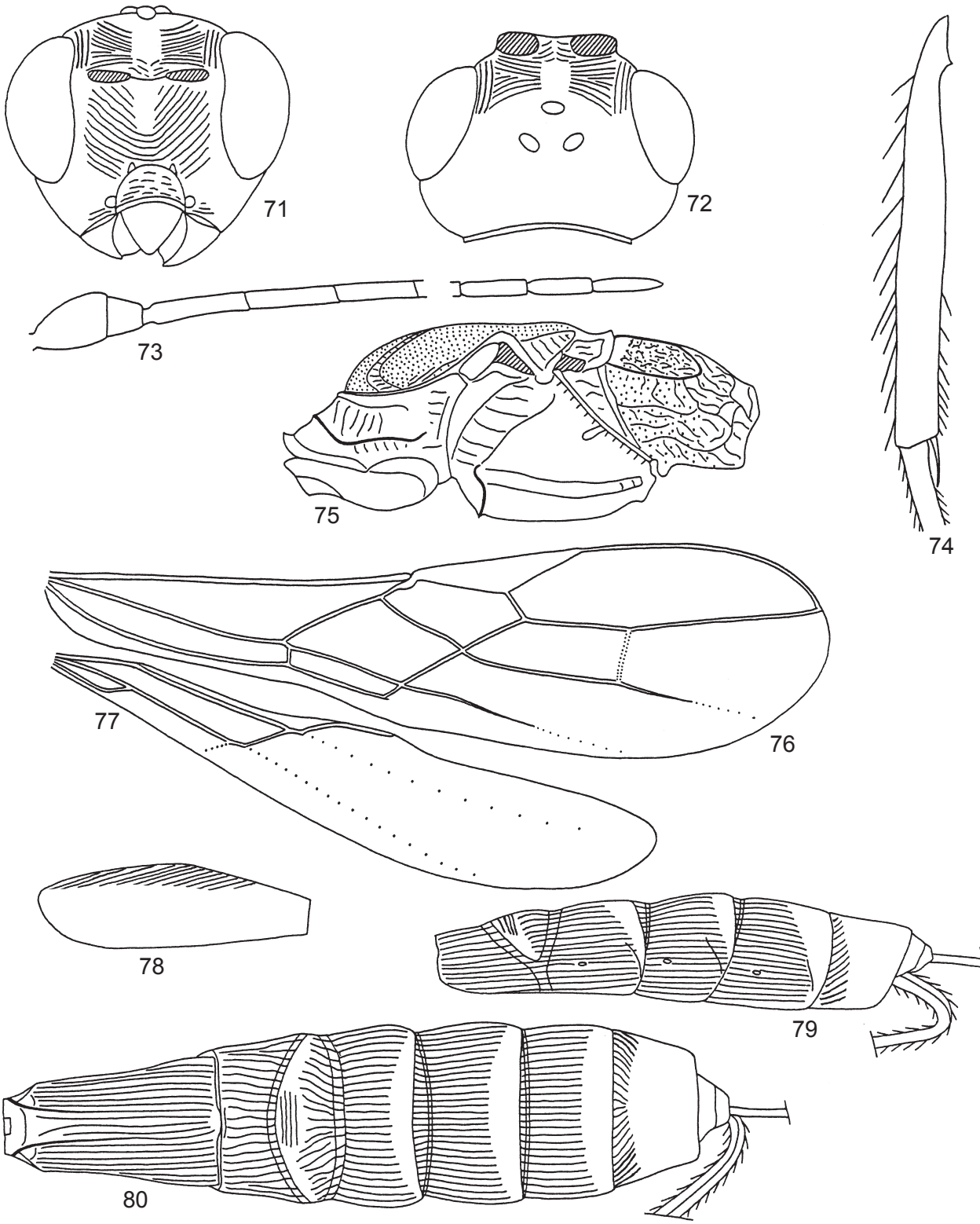
Mesosoma. Length 2.2–2.4 times its height. Pronotum anteriorly straight (dorsal view), almost straight dorsally (lateral view). Pronotal carina distinct, widely separated medially from posterior margin of pronotum; distances from carina to anterior and posterior margins of pronotum subequal. Mesoscutum gently and roundly raised above pronotum. Notauli rather shallow, narrow, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression distinct, shallow, weakly and roundly directed posterolaterally, with 3 carinae, sparsely rugulose, 0.2–0.3 times as long as weakly convex scutellum. Sternauli rather shallow, narrow, almost smooth, but with 2–3 longitudinal striae posteriorly, straight, running along almost entire lower part of mesopleura. Prepectal carina distinct, narrow ventrally, without widened lobes opposite fore coxae. Subalar depression rather shallow, narrow, crenulate-rugulose. Metanotum with short pointed tooth. Metapleural lobe long, rather narrow and rounded apically.

Wings. Length of fore wing 3.6–4.0 times its maximum width. Radial cell not shortened. Metacarpus about 1.5 times as long as pterostigma. Radial vein arising from middle of pterostigma. First radial abscissa forming distinct angle with second abscissa. Second radial abscissa 2.5–4.0 times as long as first abscissa, 0.5–0.6 times as long as third abscissa, 1.4–1.8 times as long as first radiomedial vein. Second radiomedial cell not widened distally, its length 3.0–3.6 times maximum width, 1.3–1.6 times length of rather narrow brachial cell. First medial abscissa weakly S-shape. Recurrent vein almost interstitial or weakly antefurcal. Mediocubital vein very weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.2–0.7 times nervulus length. Brachial cell rather sharply and weakly-roundly or almost linearly closed before level of recurrent vein; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) present. Hind wing 5.7–6.5 times as long as wide. First costal abscissa 0.5–0.6 times as long as second abscissa. First abscissa of mediocubital vein 0.5–0.6 times as long as second abscissa. Recurrent vein very short, unsclerotized for most part.

Legs. Hind femur with weak dorsal protuberance, its length 3.0–3.3 times maximum width. Hind tarsus 0.9–1.0 times as long as hind tibia. Hind tibia apically with 2 outside spines. Hind basitarsus 0.7–0.75 times combined length of second-fifth segments. Second tarsal segment 0.4 times as long as basitarsus, 1.8–2.0 times as long as fourth segment, almost as long as fifth segment (without pretarsus).

Metasoma 1.1–1.2 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 2.0–2.2 times its basal width; its length 1.6–1.65 times apical width. Second tergite without basal area, with rather deep and concavely curved transverse furrow and distinctly separated wide lenticular apical area, this area 1.0–1.3 times as long as rest part of tergite. Median length of second tergite 0.85–1.0 times its basal width, 1.6–1.8 times length of third tergite. Second suture deep and wide. Sixth tergite short, almost straight submedially in posterior margin, without median emargination and posteroventral lobes. Sixth tergite 0.85–1.0 times as long as fifth tergite, almost as long as fourth tergite. Ovipositor sheath 0.5–0.7 times as long as metasoma, 1.7–2.3 times as long as first tergite, 0.7–1.0 times as long as mesosoma, 0.35–0.45 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons laterally and anteriorly rugulose-striate, sometimes with granulation, smooth on rest part; face rather densely and finely rugulose-striate, smooth medially. Sides of pronotum rugose, partly smooth. Mesoscutum and scutellum densely granulate, mesoscutum with 2 convergent striae medioposteriorly and rugosity between them. Mesopleura smooth. Metapleura rugose-striate, granulate in basal ⅓. Propodeum with marginate large basolateral areas, with median carina in basal ½–⅓; basolateral areas rugulose-reticulate, almost smooth basally, rest part of propodeum coarsely rugose-reticulate. Hind coxa partly finely rugulose-striate dorsally; hind femur smooth, finely striate dorsally. First tergite with almost complete dorsal carinae, entirely striate. Second tergite [except apical area, which is almost smooth anteriorly (holotype) or finely rugulose (paratype) and finely rugulose-striate in posterior half], third-fifth tergites in basal ½–⅔ (except smooth posterior their parts) distinctly longitudinally striate. Sixth tergite finely and arcuately or longitudinally striate in basal 1/5 and smooth on rest part, sometimes tergite entirely smooth. Second-fifth tergites laterally almost entirely and distinctly longitudinally striate. Vertex with short sparse semi-erect hairs directed forward.



Figures 71–80. *Rhaconotus iterabilis* sp. nov. (71) Head, frontal view; (72) head, dorsal view; (73) basal and apical segments of antenna; (74) hind tibia; (75) mesosoma, lateral view; (76) fore wing; (77) hind wing; (78) hind femur; (79) second-sixth tergites of metasoma, lateral view; (80) metasoma, dorsal view.

Mesoscutum for most part with rather dense semierect short yellowish hairs, narrow median glabrous area present on lateral lobes. Hind tibia with semierect rather dense light hairs dorsally; length of these hairs 0.8–1.1 times maximum width of hind tibia.

Colour. Body black, head ventrally, promesosoma apically, mesosternum and second-sixth tergites mostly reddish; rarely body reddish brown, darker dorsally, promesosoma brownish yellow. Antenna dark reddish brown or black, lighter basally, or light reddish brown and darkened toward apex, scapus and pedicel brownish yellow. Palpi yellow. Legs brownish yellow. Ovipositor sheath black, light basally. Wings faintly infuscate. Pterostigma brownish yellow.

Male unknown.

Diagnosis. This species is similar to *Rh. nadezhdae* (Tobias et Belokobylskij), but differs from the latter in the first tergite being longer, the second tergite being subsquare, and the hind coxa being partly rugulose dorsally.

Etymology. From Latin "iterabilis" meaning "repeated".

Distribution. China (Henan, Guizhou); Russia (Primorsk Terr.).

Rhaconotus luteosetosus sp. nov.
(Figs 81–90)

Type material. Holotype: female, China, Fujian prov., Jiangle, Longxi Shan, 8.VI.1991 (Liu Changming), No 969686 (ZJUH).

Description. Female. Body length 7.0 mm; fore wing length 4.7 mm. Head width 1.5 times its median length. Head behind eyes roundly narrowed; temple 0.55 times as long as transverse diameter of eye. Ocelli small, in equilateral triangle; POL equal to Od, 0.5 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.15 times as high as broad. Malar space height 0.35 times height of eye, 0.8 times basal width of mandible. Face width almost equal to height of eye and 1.4 times height of face and clypeus combined. Malar suture indistinct. Upper margin of clypeus situated distinctly upper lower level of eyes. Hypoclypeal depression round, its width slightly less than distance from edge of depression to eye. Occipital carina not fused with hypostomal carina below being obliterated for short distance upper base of mandible. Vertex weakly convex.

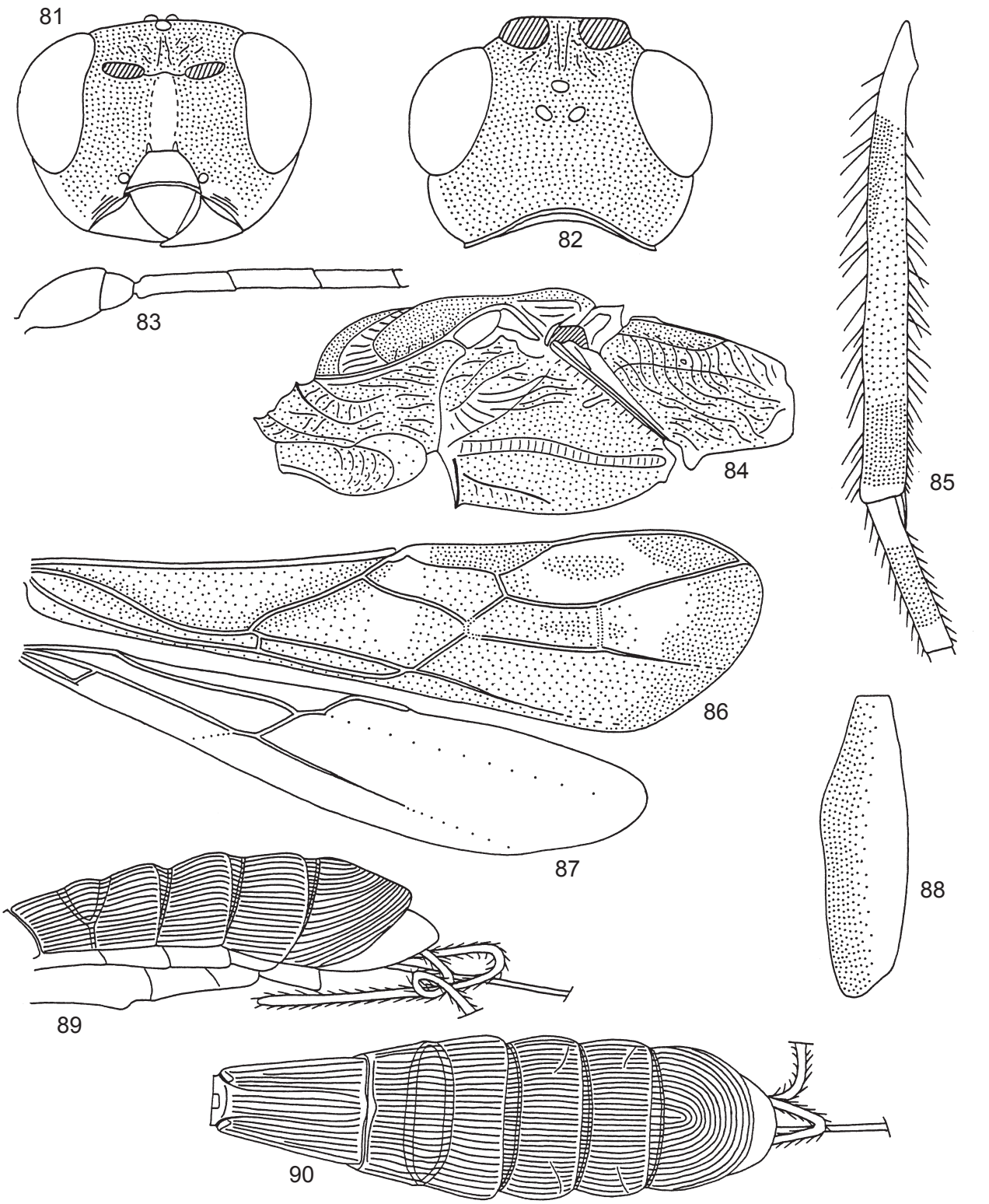
Antennae slightly setiform, more than 19-segmented (apical segments missing). Length of scapus 1.7 times its maximum width. First flagellar segment 4.8 times as long as its apical width, as long as second segment.

Mesosoma. Length 2.4 times its height. Pronotum anteriorly regularly rounded (dorsal view), posteriorly weakly convex dorsally (lateral view). Pronotal carina distinct, not high, shortly separated medially from posterior margin of pronotum. Mesoscutum gently and roundly raised above pronotum. Notauli deep, complete, rather wide and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression distinct, rather shallow, with median carina, reticulate-striate, rather deep, its sides weakly curved, not directed strongly backward, 0.3 times as long as convex scutellum. Sternauli deep, strongly crenulate, slightly S-shape, running along almost entire lower part of mesopleura. Prepectal carina strong, with 2 more or less distinctly widened lobes opposite fore coxae. Subalar depression shallow, narrow, crenulate. Metanotum with short, wide and pointed tooth. Metapleural lobe rather long, wide and rounded apically.

Wings. Length of fore wing 4.0 times its maximum width. Radial cell not shortened. Metacarpus 1.25 times as long as pterostigma. Radial vein arising distinctly behind middle of pterostigma. First radial abscissa forming distinct angle with second abscissa. Second radial abscissa 4.2 times as long as first abscissa, 0.6 times as long as third abscissa, 1.8 times as long as first radiomedial vein. Second radiomedial cell weakly widened distally, its length 2.7 times maximum width, 0.9 times length of brachial cell. First medial abscissa weakly S-shape. Recurrent vein distinctly postfurcal. Mediocubital vein distinctly curved to anal vein in distal half. Distance from nervulus to basal vein 0.6 times nervulus length. Brachial cell gently and roundly closed just before level of recurrent vein; posterior bulla on brachial vein present, but short; posterior abscissa of anal vein (behind brachial vein) absent. Hind wing 5.0 times as long as wide. First costal abscissa 0.5 times as long as second abscissa. First abscissa of mediocubital vein 0.45 times as long as second abscissa. Recurrent vein long and unsclerotized.

Legs. Hind femur with distinct dorsal protuberance, its length 3.3 times maximum width. Hind tarsus 0.9 times as long as hind tibia. Hind tibia apically with 3 outside spines. Hind basitarsus 0.6 times combined length of second-fifth segments. Second tarsal segment 0.5 times as long as basitarsus, 2.3 times as long as fourth segment, 1.2 times as long as fifth segment (without pretarsus).

Metasoma 1.3 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite twice its basal width; its length 1.4 times apical width. Second tergite without basal area, with deep, wide and almost straight transverse furrow in posterior 2/5 and distinctly separated almost lenticular apical area, this area 0.7 times as long as rest part of tergite. Median length of second tergite 0.7 times its basal width, 1.6 times length of third tergite. Second suture rather deep and wide. Sixth tergite large, almost straight in posterior margin, without median



Figures 81–90. *Rhaconotus luteosetosus* sp. nov. (81) Head, frontal view; (82) head, dorsal view; (83) five basal segments of antenna; (84) mesosoma, lateral view; (85) hind tibia and basitarsus; (86) fore wing; (87) hind wing; (88) hind femur; (89) second-sixth tergites of metasoma, lateral view; (90) metasoma, dorsal view.

emargination and posteroventral lobes. Sixth tergite 1.6 times as long as fifth tergite, 1.6 times as long as fourth tergite. Ovipositor sheath 0.6 times as long as metasoma, 2.4 times as long as first tergite, 0.5 times as long as fore wing.

Sculpture and pubescence. Head densely and distinctly granulate, without obvious rugae; face medially and malar space narrowly almost smooth. Sides of pronotum densely rugose, with fine granulation. Mesoscutum densely granulate, with distinct and rather long rugae along notauli; with 2 convergent striae in medioposterior area. Mesopleura densely coriaceous, coarsely striate-rugulose in upper half. Propodeum with large and long basolateral areas, marginate by fine carinae, median carina situated in basal half; propodeum densely rugulose for most part, granulate basally. Legs finely and densely coriaceous; fore coxa and hind femur in ventral half almost smooth. First tergite with distinct dorsal carinae basally, striate. First-fifth tergites distinctly striate, with fine reticulation between striae; sixth tergite with distinct semicircular striae. Second-fourth tergites laterally with distinct and dense striae and reticulation between them. Vertex and frons with dense semi-erect yellow hairs directed on vertex lateroposteriorly and on frons forward. Mesoscutum almost entirely with dense yellow hairs directed laterally and backwards, with glabrous narrow medioposterior parts of lateral lobes. Hind tibia with semi-erect sparse yellow hairs dorsally; length of these hairs 0.7–1.0 times maximum width of hind tibia.

Colour. Body black, with dark reddish spots. Antenna light brown, slightly darkened toward apex. Palpi dark brown, but 2 apical segments yellowish brown. Legs reddish brown, sometimes darker, fore and middle femora light reddish brown; basal and apical part of first and second segments, entirely third and fourth segments of all tarsi yellow or pale brown. Ovipositor sheath brownish yellow, black apically. Wings distinctly infuscate with several light spots; apex of wing dark. Pterostigma dark brown, yellow in basal 1/5.

Male unknown.

Diagnosis. This species is similar to *Rh. scirpophagae* Wilkinson, and differs in the second tergite being with additional transverse deep furrow, the metasoma being with 6 visible tergites, the body being dark, the pterostigma being dark brown with yellow base, the fore wing being maculate, and the mediocubital vein of fore wing being strongly curved in distal half. Also, the new species is similar to *Rh. chinensis* sp. nov., differs from the latter in the hairs on the vertex and mesoscutum being very dense and short, the vertex being densely granulate, the fore wing being darkened apically, and the legs being with other coloration.

Etymology. From Latin "luteus" meaning "yellow" and "setosus" meaning "hairy".

Distribution. China (Fujian).

Rhaconotus magnus sp. nov.
(Figs 91–100)

Type material. Holotype: female, Vietnam, prov. Ha Son Binh, Da Bac, Tuly, meadow, 16.X.1990 (S. Belokobylskij) (ZISP).

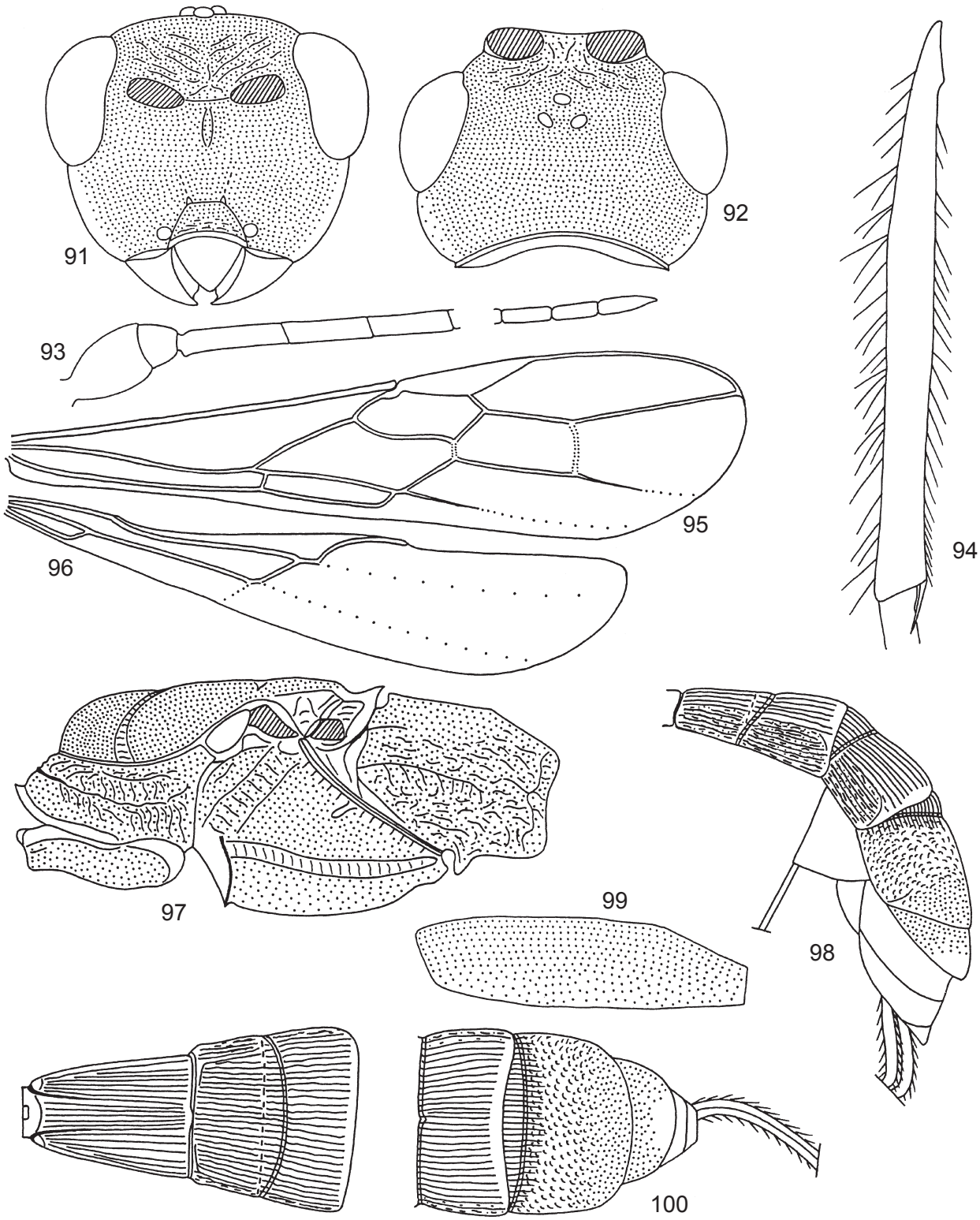
Paratypes. 1 female, Vietnam, prov. Gia Lai – Con Tum, 20 km N Buon-Luoi, Tram Lap, 1-14.XII.1988 (Sharkov) (ZISP); 1 female, China, Yunnan prov., Xinping, Xinping County Plant Protection Station, 1977, No 771274 (ZJUH); 1 female, Fujian prov., Youxi, 15.X.1988 (Zhen Qi), No 20005159 (ZJUH).

Description. Female. Body length 6.0–6.9 mm; fore wing length 4.5–4.9 mm. Head width 1.4–1.5 times its median length. Head behind eyes roundly narrowed; temple 0.5–0.6 times as long as transverse diameter of eye. Ocelli small, in triangle with base 1.1–1.2 times its sides; POL almost equal to Od, 0.3–0.4 times OOL. Eye shortly and sparsely setose, weakly emarginated opposite antennal sockets, 1.1–1.2 times as high as broad. Malar space height 0.7–0.8 times height of eye, 1.2–1.3 times basal width of mandible. Face width 1.4–1.6 times height of eye and 1.4 times height of face and clypeus combined. Malar suture indistinct. Upper margin of clypeus situated slightly below lower level of eyes. Hypoclypeal depression small, round, its width about 0.5 times distance from edge of depression to eye. Occipital carina not fused with hypostomal carina below being obliterated for short distance upper base of mandible. Vertex weakly convex.

Antennae setiform, 45–48-segmented. Length of scapus about 1.5 times its maximum width. First flagellar segment 4.5–4.7 times as long as its apical width, 1.2 times as long as second segment. Penultimate segment 3.2–3.5 times as long as wide, 0.5 times as long as first segment, 0.8 times as long as apical segment; the latter with distinct apical spine.

Mesosoma. Length 2.1–2.3 times its height. Pronotum anteriorly weakly convex (dorsal view), distinctly convex posteriorly (lateral view). Pronotal carina absent. Mesoscutum distinctly and roundly raised above pronotum. Notauli deep, complete and crenulate. Median lobe of mesoscutum with very shallow median longitudinal furrow. Prescutellar depression distinct, rather shallow, densely crenulate, weakly and roundly directed posterolaterally, 0.3 times as long as convex scutellum. Sternauli shallow, crenulate, weakly S-shape, running along entire lower part of mesopleura. Prepectal carina strong ventrally, less strong laterally, without widened lobes opposite fore coxae. Subalar depression rather shallow, wide, and crenulate. Metanotum with short pointed tooth. Metapleural lobe distinct, rather narrow and rounded apically.

Wings. Length of fore wing 4.0–4.5 times its maximum width. Radial cell not shortened. Metacarpus 1.3–1.5 times as long as pterostigma. Radial vein arising



Figures 91–100. *Rhaconotus magnus* sp. nov. (91) Head, frontal view; (92) head, dorsal view; (93) basal and apical segments of antenna; (94) hind tibia; (95) fore wing; (96) hind wing; (97) mesosoma, lateral view; (98) second-fifth tergites of metasoma, lateral view; (99) hind femur; (100) metasoma, dorsal view.

almost from middle of pterostigma or slightly behind middle. First radial abscissa forming very obtuse angle with second abscissa. Second radial abscissa 3.5–5.0 times as long as first abscissa, 0.5–0.6 times as long as third abscissa, 1.7–2.0 times as long as first radiomedial vein. Second radiomedial cell not widened distally, its length 2.3–2.8 times maximum width, almost equal to length of narrow brachial cell. First medial abscissa distinctly S-shape. Recurrent vein distinctly postfurcal. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.4–1.0 times nervulus length. Brachial cell gently and roundly closed just before level of recurrent vein; posterior bulla on brachial vein indistinct; posterior abscissa of anal vein (behind brachial vein) absent. Hind wing 5.2–5.3 times as long as wide. First costal abscissa 0.45–0.5 times as long as second abscissa. First abscissa of mediocubital vein 0.4–0.45 times as long as second abscissa. Recurrent vein long and unsclerotized.

Legs. Hind femur with distinct dorsal protuberance, its length 3.5–3.7 times maximum width. Hind tarsus slightly shorter than hind tibia. Hind tibia apically with 4–5 spines on outside margin. Hind basitarsus 0.6–0.65 times combined length of second-fifth segments. Second tarsal segment 0.55–0.6 times as long as basitarsus, 2.6–3.0 times as long as fourth segment, 1.3–1.6 times as long as fifth segment (without pretarsus).

Metasoma 1.2–1.4 times as long as head and mesosoma combined, with 5 visible tergites, but sixth tergite partly protruding behind fifth tergite. Apical width of first tergite 2.3–2.6 times its basal width; its length 1.3 times apical width. Second tergite without basal area, with very fine, straight, transverse furrow and with indistinctly separated lenticular apical area. Median length of second tergite 0.6–0.7 times its basal width, 1.2–1.5 times length of third tergite. Second suture deep and strongly curved. Fifth tergite large, weakly rounded or almost straight in posterior margin, without or (rarely) with very shallow median emargination, without posteroventral lobes. Fifth tergite 1.3–1.4 times as long as fourth tergite, 1.5–1.6 times as long as third tergite. Ovipositor sheath 0.6–0.9 times as long as metasoma, 2.7–3.4 times as long as first tergite, 0.55–0.7 times as long as fore wing.

Sculpture and pubescence. Head densely and almost entirely granulate, without rugae; frons almost entirely rugose with granulation between rugae. Sides of pronotum finely and densely reticulate-rugulose with granulation. Mesoscutum densely granulate, without striae near notauli and laterally, with narrow and long medioposterior reticulate-rugose area and with distinct long and longitudinal striae in basal half. Mesopleura densely granulate. Propodeum without marginate areas, with median carina in basal ¼–½, densely reticulate-rugulose, with several striae and granulation partly. Legs entirely finely granulate. First tergite with dorsal carinae at least basally, densely striate. Second-fourth tergites coarsely striate, striae on second and third tergites more or less undulate; fifth tergite striate basally, very densely reticulate for most part. Second-fourth tergites laterally with fine or very fine and dense undulate striae and with dense granulation. Vertex with long and rather dense semi-erect white hairs directed laterally. Mesoscutum with rather dense semi-erect white hairs arranged widely along notauli, medioposteriorly and marginally, and with small glabrous areas. Hind tibia with semi-erect sparse white hairs dorsally; length of these hairs 0.8–0.9 times maximum width of hind tibia.

Colour. Body light reddish brown, head yellow. Antennae light reddish brown, darkened toward apex. Palpi yellow. Legs yellow, fifth segment dark in apical half. Ovipositor sheath black. Wings hyaline. Pterostigma entirely pale yellow.

Male unknown.

Diagnosis. This species is similar to *Rh. scirpophagae* Wilkinson, but differs from the latter in the head behind eye being distinctly and roundly narrowed, the mesoscutum being more gently raised above pronotum, the first tergite being long, the vertex being more convex, and the body being larger.

Etymology. From Latin "magnus" meaning "large".

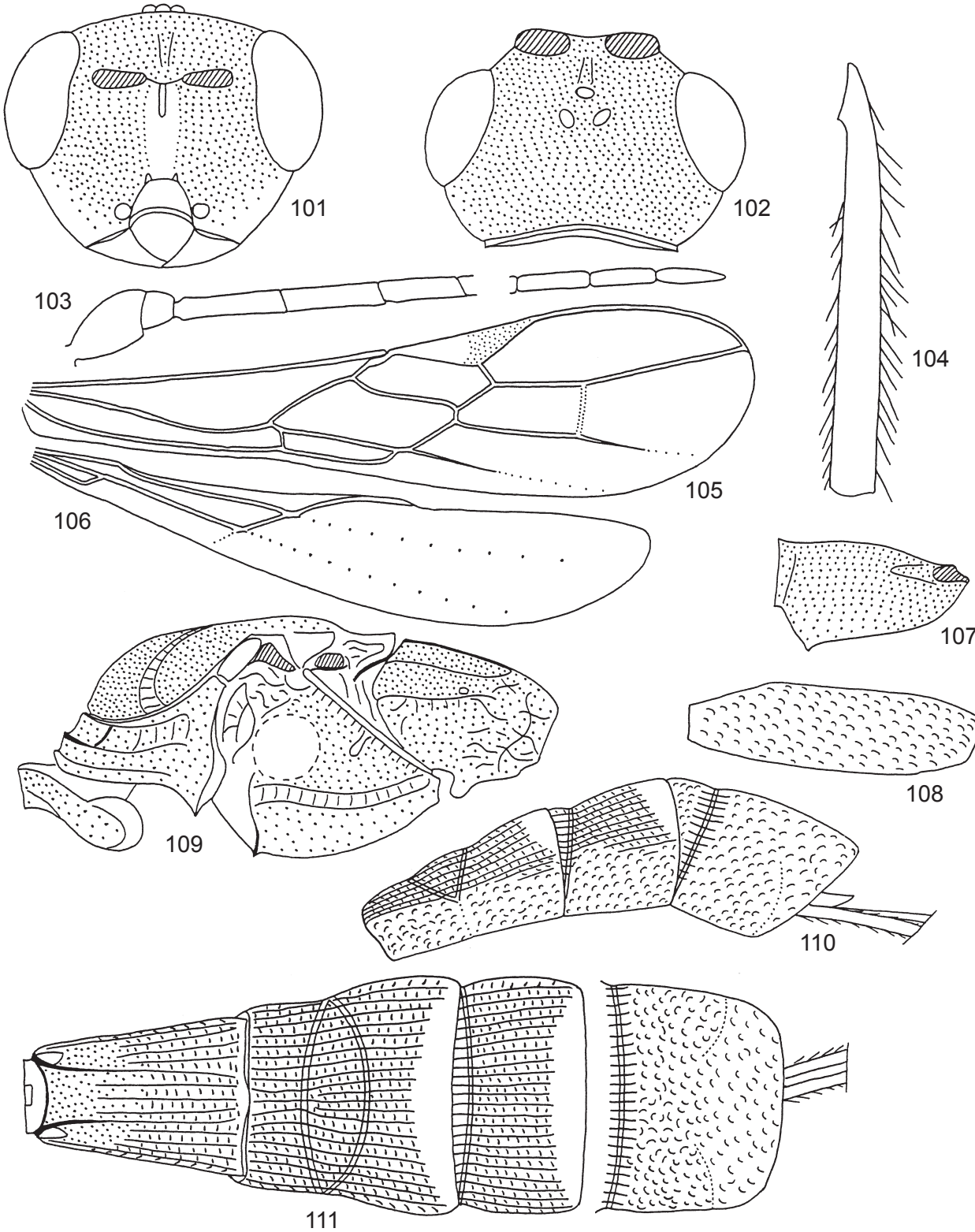
Distribution. China (Yunnan, Fujian); Vietnam.

Rhaconotus oriens sp. nov.
(Figs 101–111)

Type material. Holotype: female, Japan, "I-19-1953, Ryukyu Is, Iriomote Is., Ohara, T. Shiraki" (NIAES).

Paratypes. 1 female, China, Fujian prov., Chongan, 8.IX.1988 (Lin Changfu), No 20007473 (ZJUH); 1 female (?), Japan, Ibaraki Pref., Tsukuba, Expo Site, PT, 29.VIII.1989, (M. J. Sharkey), (ZISP); 1 female, Korea, "Jeonnam, Suncheonsi, Seungjueup, Jukhakri, Seonamsa (Mt. Jogye), 4.IX.1998 (S.), J.-S. Park" (BCIK).

Description. Female. Body length 2.9–3.4 mm; fore wing length 2.4–2.9 mm. Head width 1.4–1.6 times its median length. Head behind eyes weakly-roundly and rather strongly narrowed; temple 0.5–0.55 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL 0.7–1.2 times Od, 0.25–0.4 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.15–1.2 times as high as broad. Malar space height 0.5–0.6 times height of eye, 0.8–1.2 times basal width of mandible. Face width 1.25–1.3 times height of eye and 1.4–1.6 times height of face and clypeus combined. Malar suture indistinct. Upper margin of clypeus situated almost on lower level of eyes. Hypoclypeal depression small, round, its width 0.5–0.6 times distance from edge of depression to eye, 0.3 times width of face. Occipital carina not



Figures 101–111. *Rhaconotus oriens* sp. nov. (101) Head, frontal view; (102) head, dorsal view; (103) basal and apical segments of antenna; (104) hind tibia; (105) fore wing; (106) hind wing; (107) hind coxa; (108) hind femur; (109) mesosoma, lateral view; (110) second-fifth tergites of metasoma, lateral view; (111) metasoma, dorsal view.

fused with hypostomal carina below being obliterated for short distance upper base of mandible. Vertex weakly convex.

Antennae slender, weakly setiform, 33-segmented, 1.3–1.5 times as long as body. Length of scapus 1.5–1.7 times its maximum width. First flagellar segment 4.5–5.0 times as long as its apical width, as long as or slightly shorter than second segment. Penultimate segment 4.5 times as long as wide, 0.7 times as long as first segment, 0.9 times as long as apical segment; the latter shortly pointed apically.

Mesosoma. Length 2.1–2.2 times its height. Pronotum anteriorly straight (dorsal view), almost straight dorsally (lateral view). Pronotal carina distinct, widely separated medially from posterior margin of pronotum; distance from pronotal carina to posterior margin of pronotum 1.2–1.5 times distance from carina to anterior margin. Mesoscutum not higher, obliquely and roundly raised above pronotum. Notauli wide, rather shallow, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression rather deep, weakly and roundly directed posterolaterally, with median carina, rugose, 0.3 times as long as scutellum. Scutellum weakly convex, without lateral carinae. Sternauli rather deep, crenulate, S-shape, running along entire lower part of mesopleura. Prepectal carina distinct, rather wide ventrally, without widened lobes opposite fore coxae. Subalar depression shallow and wide. Metanotum with short pointed tooth. Metapleural lobe long, rather narrow and rounded apically. Mesopleural suture distinctly and coarsely crenulate.

Wings. Length of fore wing 3.7–4.0 times its maximum width. Radial cell not shortened. Metacarpus 1.4–1.5 times as long as pterostigma. Radial vein arising from middle of pterostigma. First radial abscissa forming distinct obtuse angle with second abscissa. Second radial abscissa 2.8–3.0 times as long as first abscissa, 0.5–0.6 times as long as third abscissa, 1.8–2.2 times as long as first radiomedial vein. Second radiomedial cell weakly widened distally, its length 2.5–2.9 times maximum width, 1.2–1.4 times length of rather narrow brachial cell. First medial abscissa distinctly S-shape. Recurrent vein distinctly postfurcal. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.5–1.0 times nervulus length. Brachial cell gently and roundly closed before level of recurrent vein; posterior bulla on brachial vein indistinct; posterior abscissa of anal vein (behind brachial vein) absent. Hind wing 5.2–5.6 times as long as wide. First costal abscissa 0.4–0.5 times as long as second abscissa. First abscissa of mediocubital vein 0.4–0.45 times as long as second abscissa. Recurrent vein indistinct, if sometimes present, then strongly desclerotized.

Legs. Hind femur with distinct dorsal protuberance, its length 3.4–3.6 times maximum width. Hind tarsus almost as long as hind tibia. Hind tibia apically with 2–3 spines on outside margin. Hind basitarsus 0.6–0.7 times combined length of second-fifth segments. Second tarsal segment 0.45–0.5 times as long as basitarsus, 1.6–2.0 times as long as fourth segment, 1.0–1.2 times as long as fifth segment (without pretarsus).

Metasoma slightly longer than head and mesosoma combined, with 5 visible tergites. Apical width of first tergite 2.2–2.4 times its basal width; its length 1.4–1.45 times apical width. Second tergite without basal area, with deep, weakly concavely curved transverse furrow and with distinct wide lenticular apical area, this area 1.1–1.5 times as long as rest part of tergite. Median length of second tergite 0.7–0.75 times its basal width, 1.4–1.6 times length of third tergite. Second suture deep and distinctly curved. Fifth tergite large, almost straight in posterior margin, without median emargination and posteroventral lobes. Fifth tergite 1.3–1.6 times as long as fourth tergite, 1.6–1.7 times as long as third tergite. Ovipositor sheath 0.55–0.7 times as long as metasoma, 1.9–2.4 times as long as first tergite, 0.85–1.0 times as long as mesosoma, 0.4–0.45 times as long as fore wing.

Sculpture and pubescence. Vertex densely granulate. Frons densely granulate, rugulose anteriorly. Temple densely granulate-coriaceous, almost smooth ventrally. Face densely and finely granulate for most part, smooth medially. Sides of pronotum densely granulate, partly with rugulosity, with deep marginate and granulate-crenulate submedian depression. Mesoscutum densely granulate, narrowly rugose medioposteriorly. Mesopleura densely granulate. Metapleura rugose-granulate, only granulate in anterior ⅓. Propodeum with marginate and densely granulate basolateral areas, without areola, with median carina in basal half; rest of propodeum rugose-granulate. Hind coxa densely granulate entirely. Hind femur densely coriaceous. Hind tibia very densely granulate. First tergite with complete dorsal carinae, striate for most part, densely granulate in basal ¼–1/5. Second tergite entirely, third and fourth in basal ⅔–½ and fifth basally usually striate with ground reticulation; fifth tergite granulate-reticulate for most part, third and fourth tergite smooth apically. Second-fourth tergites laterally densely granulate-rugulose almost entirely. Vertex with short sparse semi-erect hairs directed forward. Mesoscutum glabrous mostly, with dense semi-erect yellowish hairs arranged rather widely along notauli. Hind tibia with semi-erect rather dense white hairs dorsally; length of these hairs 0.8–1.0 times maximum width of hind tibia.

Colour. Head light reddish brown, frons and vertex widely or very widely and temple posteriorly distinctly infuscate. Mesosoma dark reddish brown or almost black for most part, mesopleura and often propleura reddish brown or light reddish brown. Metasoma

dark reddish brown to reddish brown at least partly; fifth tergite sometimes yellowish red for most part. Antennae yellowish brown, distinctly infuscate in apical ⅓. Palpi brownish yellow. Legs yellow or light reddish yellow, hind coxa darker; sometimes hind tibia apically faintly infuscate; fifth segments of all tarsi distinctly infuscate. Ovipositor sheath almost black, paler basally. Fore wings very faintly infuscate. Pterostigma light brown or yellow.

Male unknown.

Diagnosis. This species is similar to *Rh. concinnus* (Enderlein), but differs from the latter in the malar space being longer, the pronotal carina situated more closely to anterior margin of pronotum, the sternauli being distinctly S-shape, the second tergite being shorter and with wide apical area, and the ovipositor sheath being longer.

Etymology. From Latin "oriens" meaning "east".

Distribution. China (Fujian); Japan, Korea.

Rhaconotus tergalis sp. nov.
(Figs 112–121)

Type material. Holotype: female, Vietnam, prov. Ha Son Binh, Da Bac, Tuly, shrubs, 17.X.1990 (S. Belokobylskij) (ZISP).

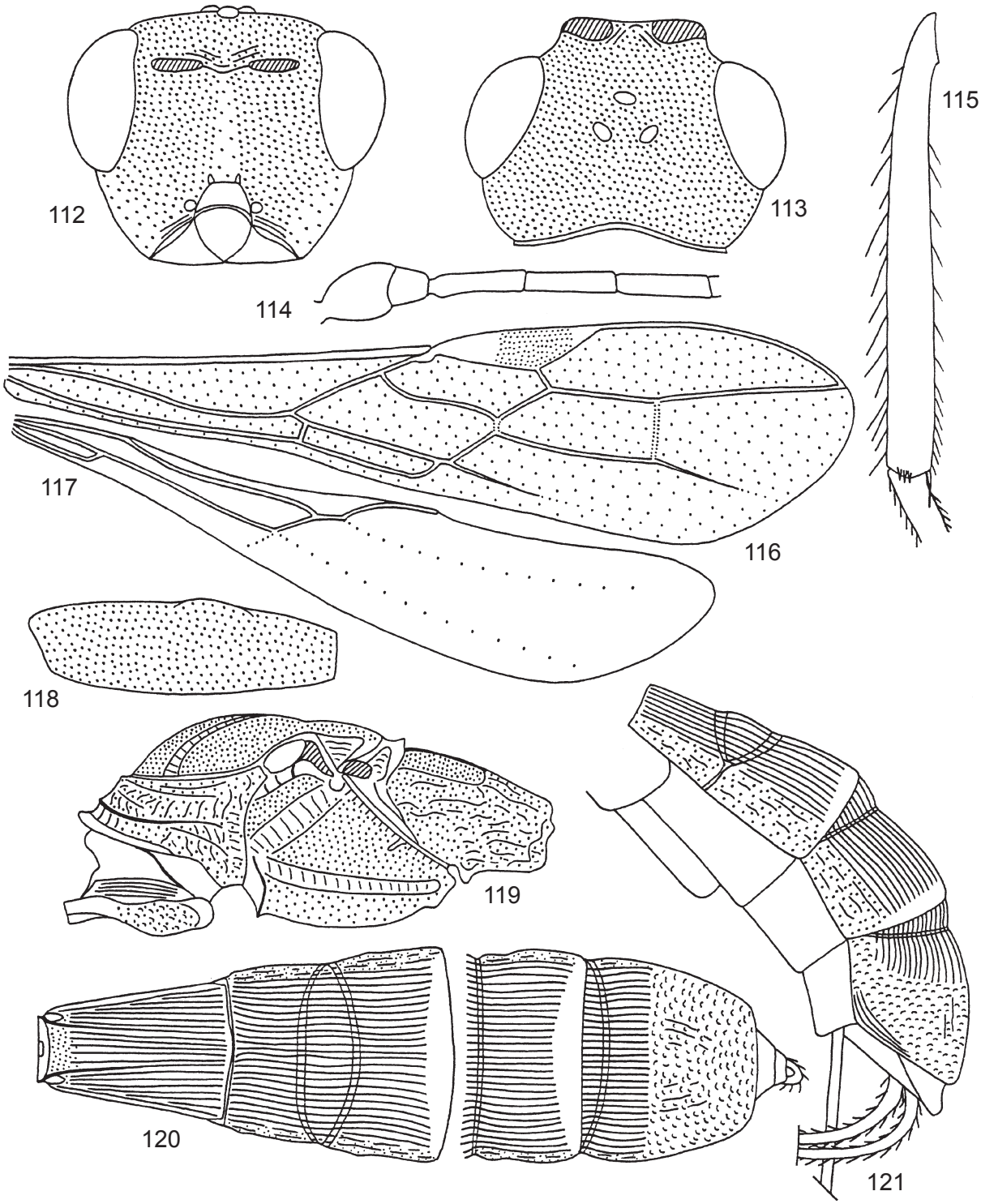
Paratypes. China: 1 female, Guangxi prov., Longsheng, Huaping, Tianpingshan-Hongmaogai-Hetan, 25 & 26.VI.1982 (He Junhua), No 824540 (ZJUH); 1 female, Yunnan prov., Ruili, 3.V.1981 (He Junhua), No 812428 (ZJUH). Vietnam: 1 female, prov. Ha Son Binh, Da Bac, Tuly, forest, 19.X.1990 (S. Belokobylskij) (ZISP); 4 females, 1 male, Hanoi, park, weeds, shrubs, 3, 4, 9, 14.X.1990 (S. Belokobylskij) (ZISP, MIZW); 1 female, prov. Ha Son Binh, Ky Son, Cao Phong, 27.X.1990 (E. Nartshuk) (ZISP); 1 female, same locality, forest, 26.X.1990 (S. Belokobylskij) (ZISP); 1 female, prov. Gia Lai – Con Tum, 20 km N Buon-Luoi, Tram Lap, 1–14.XII.1988 (A. Sharkov) (ZISP); 1 female, prov. Bac Thai, Phu Luong, Quang Chu, 20 km N Thai Nguyen, 16–23.IV.1986 (A. Sharkov) (ZISP). Thailand: 1 female, Kanchanaburi, Sinakharia National Park, el 100 m, 5.VII.1990 (J. Heraty) (TAMU). India: 1 female, Coimbatore, 1400', Madras State, IV.1962 (collector unknown) (CNCI).

Description. Female. Body length 3.2–4.5 mm; fore wing length 2.6–3.4 mm. Head width 1.5–1.6 times its median length. Head behind eyes roundly narrowed; temple 0.45–0.7 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL almost equal to Od, 0.3–0.45 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.15–1.2 times as high as broad. Malar space height 0.5–0.55 times height of eye, 1.1 times basal width of mandible. Face width 1.1–1.3 times height of eye and 1.3–1.5 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated almost on lower level of eyes. Hypoclypeal depression round and small, its width 0.6–0.7 times distance from edge of depression to eye. Occipital carina not fused with hypostomal carina below being obliterated for short distance upper base of mandible. Vertex convex.

Antennae weakly setiform, 31–35-segmented, 1.3–1.4 times as long as body. Length of scapus 1.3–1.5 times its maximum width. First flagellar segment 3.7–4.3 times as long as its apical width, 0.9–1.0 times as long as second segment. Penultimate segment 3.8–4.5 times as long as wide, 0.7–0.75 times as long as first segment, about 0.9 times as long as apical segment; the latter pointed apically.

Mesosoma. Length 2.1–2.2 times its height. Pronotum anteriorly straight (dorsal view), almost straight dorsally (lateral view). Pronotal carina distinct, widely separated medially from posterior margin of pronotum; distances from carina to posterior margin of pronotum sometimes 1.5 times distance from carina to anterior margin, or usually these distances subequal. Mesoscutum gently and roundly raised above pronotum. Notauli rather deep, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression distinct, rather deep, with 3–5 carinae, finely sculptured or almost smooth, 0.25–0.3 times as long as convex scutellum. Sternauli rather shallow, narrow, crenulate, almost straight, running along almost entire lower part of mesopleura. Prepectal carina distinct, rather wide ventrally, without widened lobes opposite fore coxae. Subalar depression shallow, narrow, rather finely crenulate with dense granulation. Metanotum with distinct short pointed tooth. Metapleural lobes rather wide and rounded apically.

Wings. Length of fore wing 3.6–4.0 times its maximum width. Radial cell not shortened. Metacarpus 1.5 times as long as pterostigma. Radial vein arising behind middle of pterostigma. First radial abscissa forming distinct angle with second abscissa. Second radial abscissa 3.3–4.0 times as long as first abscissa, 0.55–0.6 times as long as third abscissa, 1.8–2.0 times as long as first radiomedial vein. Second radiomedial cell weakly widened distally, its length 2.4–2.7 times maximum width, 1.1 times length of rather narrow brachial cell. First medial abscissa weakly S-shape. Recurrent vein distinctly postfurcal. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein 0.7–0.8 times nervulus length. Brachial cell rather sharply and roundly closed distinctly or weakly before level of recurrent vein; posterior bulla on brachial vein absent; posterior abscissa of anal vein (behind brachial vein) absent. Hind wing 5.0–5.7 times as long as wide. First costal abscissa 0.5–0.55 as long as second abscissa. First abscissa of mediocubital vein 0.4–0.5 times as long as second abscissa. Recurrent



Figures 112–121. *Rhaconotus tergalis* sp. nov. (112) Head, frontal view; (113) head, dorsal view; (114) five basal segments of antenna; (115) hind tibia; (116) fore wing; (117) hind wing; (118) hind femur; (119) mesosoma, lateral view; (120) metasoma, dorsal view; (121) second-fifth tergites of metasoma, lateral view.

vein present, but strongly desclerotized, more or less distinctly antefurcal.

Legs. Hind femur with dorsal protuberance, its length 3.3–3.6 times maximum width. Hind tarsus almost as long as hind tibia. Hind tibia apically with 2–3 outside spines. Hind basitarsus 0.6 times combined length of second-fifth segments. Second tarsal segment 0.5–0.55 times as long as basitarsus, 2.0–2.3 times as long as fourth segment, 1.1–1.3 times as long as fifth segment (without pretarsus).

Metasoma 1.1–1.25 times as long as head and mesosoma combined, with 5 visible tergites. Apical width of first tergite 2.0–2.3 times its basal width; its length 1.2–1.3 (very rarely 1.4) times apical width. Second tergite without basal area, with distinct, rather deep, and almost straight transverse furrow and rather distinctly separated lenticular apical area, this area 0.8–0.9 times as long as rest part of tergite. Median length of second tergite 0.75–0.85 (rarely 0.65 or 0.9) times its basal width, 1.4–1.6 times length of third tergite. Second suture deep and wide. Fifth tergite large, weakly rounded in posterior margin, without median emargination and posteroventral lobes. Fifth tergite 1.5–1.6 times as long as fourth tergite, 1.7–1.9 times as long as third tergite. Ovipositor sheath 0.5–0.6 times as long as metasoma, 1.8–2.3 times as long as first tergite, 0.8–0.9 times as long as mesosoma, 0.35–0.47 times as long as fore wing.

Sculpture and pubescence. Vertex and temple densely granulate, without rugae or striae. Frons granulate, sometimes with fine transverse striae anteriorly. Face densely granulate, almost smooth or very finely granulate medially. Sides of pronotum densely granulate, rather narrowly striate medially. Mesoscutum densely granulate, without rugae near notauli and laterally, rugose at narrow medioposterior area. Scutellum and mesopleura densely granulate. Metapleura rugulose-granulate, almost only granulate anteriorly. Propodeum with marginate basolateral areas (which is indistinct sometimes), with median carina in basal ²/₅–½, rugulose-reticulate, with fine granulation, only densely granulate in basolateral ⅓–³/₅. Legs densely granulate. First tergite with more or less distinct dorsal carinae, almost entirely striate, often granulate basally. Second tergite entirely, third and fourth in basal ⅚ and fifth in basal ½–⅓ distinctly striate; striae at second tergite partly weakly undulate. Third and fourth tergites apically smooth, fifth tergite granulate-reticulate with dense punctulation in apical ½–⅔. Second-fourth tergites laterally rugulose-granulate, sometimes upper with fine striation. Vertex with short and sparse semi-erect hairs directed forward. Mesoscutum with rather dense semi-erect white hairs arranged widely along notauli and marginally. Hind tibia with semi-erect rather sparse and rather short white hairs dorsally; length of these hairs 0.7–0.8 times maximum width of hind tibia.

Colour. Body dark reddish brown, almost black partly; mesonotum or anterior ½–⅔ of mesosoma, most part of head, and apical half of fifth tergite or most part of metasoma reddish. Sometimes head entirely or body almost entirely reddish brown. Antenna for most part or sometimes only 2 basal segments light reddish brown, faintly darkened toward apex; or yellowish brown almost entirely; rarely 2 basal segments dark dorsally and light ventrally. Palpi light brown. Legs reddish yellow, sometimes all tibiae infuscate apically. Ovipositor sheath black, usually paler basally. Wings faintly infuscate. Pterostigma brown, yellow in basal ⅓ and apically.

Male. Body length 3.2 mm; fore wing length 2.2 mm. Head less transverse, its width 1.4 times median length. Antenna 30-segmented. Metasoma slender, with 5 visible tergites. Length of first tergite 1.6 times its apical width. Apical area of second tergite short, 0.4 times as long as rest part of tergite. Length of second tergite 1.1 times its basal width. Fifth tergite 1.1 times as long as fourth tergite, 1.4 times as long as third tergite. Otherwise similar to female.

Diagnosis. This species is similar to *Rh. testaceiceps* Cameron, but differs from the latter in the fifth tergite being densely granulate-reticulate in apical ½–⅔, the vertex being without rugosity, the mesoscutum being densely and rather widely setose along notauli, the hind tibia being more sparsely and shortly setose, and the second-fourth tergites being rugulose-granulate laterally.

Etymology. From Latin "tergalis" meaning "dorsal".

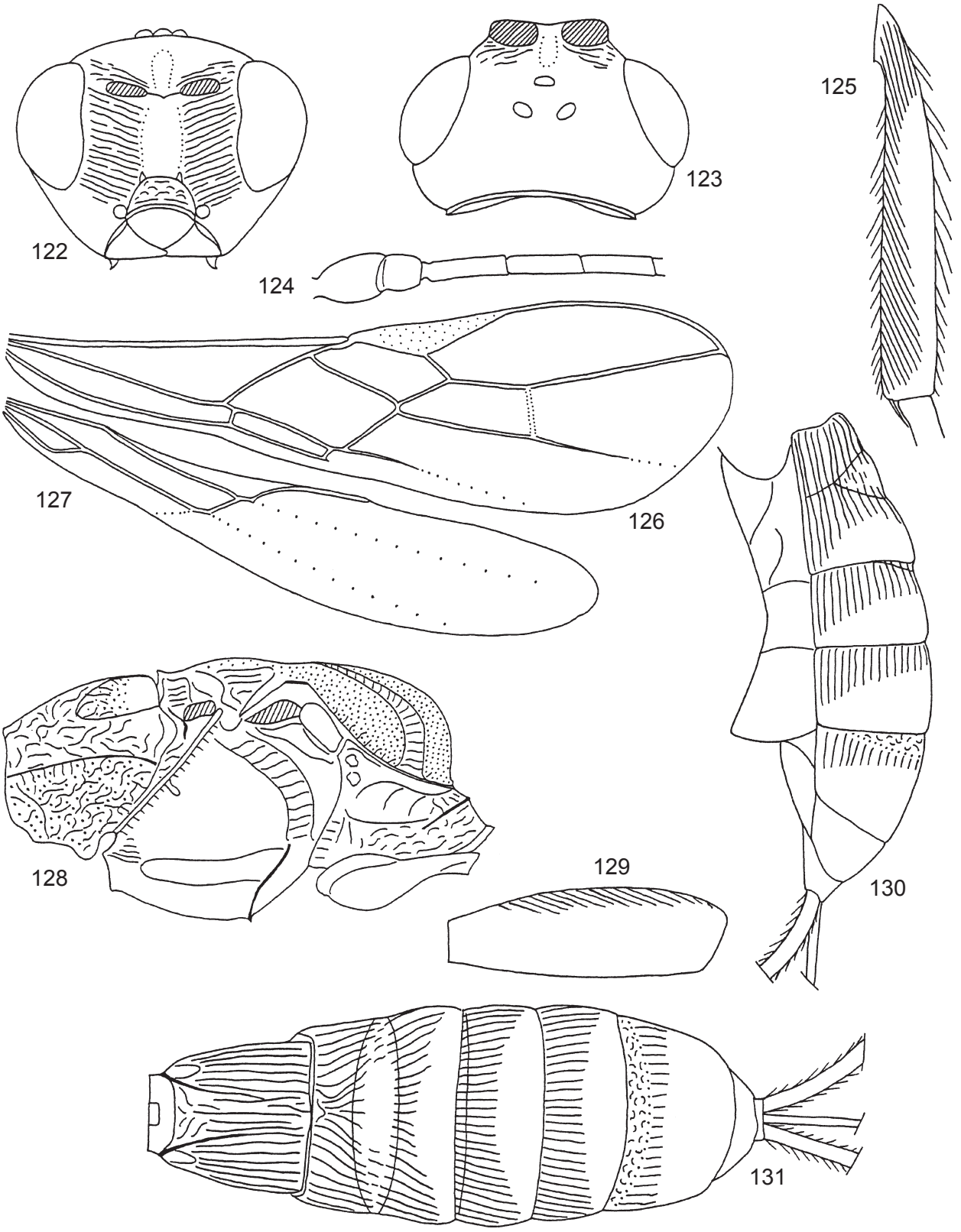
Distribution. China (Guangxi, Yunnan); Vietnam, Thailand, India.

Rhaconotus tianmushanus sp. nov.
(Figs 122–131)

Type material. Holotype: female, China, Zhejiang prov., Tianmushan, 29.VII.1999 (Zhao Minshui), No 20003339 (ZJUH).

Paratypes. 1 female, China, Zhejiang prov., Tianmushan, Sanmuping, 30.VII.1998 (Zhao Minshui), No 999226 (ZISP).

Description. Female. Body length 2.9–3.6 mm; fore wing length 2.5–2.8 mm. Head width 1.6 times its median length. Head behind eyes distinctly roundly narrowed; temple 0.45–0.5 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL 1.3 times Od, 0.4 times OOL. Eye sparsely and shortly setose or almost glabrous, very weakly emarginated opposite antennal sockets, 1.3 times as high as broad. Malar space height 0.3–0.4 times height of eye, 0.8–0.9 times basal width of mandible. Face width almost equal to height of eye and 1.2–1.3 times height of face and clypeus combined. Malar suture absent. Upper margin of clypeus situated distinctly upper lower level of eyes. Hypoclypeal depression



Figures 122–131. *Rhaconotus tianmushanus* sp. nov. (122) Head, frontal view; (123) head, dorsal view; (124) five basal segments of antenna; (125) hind tibia; (126) fore wing; (127) hind wing; (128) mesosoma, lateral view; (129) hind femur; (130) second-fifth tergites of metasoma, lateral view; (131) metasoma, dorsal view.

round, its width 0.9 times distance from edge of depression to eye, 0.35 times width of face. Occipital carina complete and fused with hypostomal carina upper base of mandible. Vertex distinctly convex.

Antennae slender, weakly setiform, 33-segmented. Length of scapus 1.8 times its maximum width. First flagellar segment 3.8–4.3 times as long as its apical width, 1.1 times as long as second segment. Penultimate segment 4.5 times as long as wide, 0.6 times as long as first segment, almost as long as apical segment; the latter with short apical spine.

Mesosoma. Length 1.8–1.85 times its height. Pronotum anteriorly straight (dorsal view), weakly convex dorsally (lateral view). Pronotal carina rather fine or distinct, distinctly separated medially from posterior margin of pronotum; distance from carina to anterior margin of pronotum 1.4–1.7 times distance from carina to posterior margin. Mesoscutum highly and roundly raised above pronotum. Length of mesoscutum 0.8–0.9 times its maximum width. Notauli rather shallow, narrow, complete and crenulate. Median lobe of mesoscutum without median furrow. Prescutellar depression distinct, rather deep, distinctly and linearly directed posterolaterally, with 1–3 carinae, rugulose, 0.3 times as long as weakly convex scutellum. Sternauli rather shallow, narrow, smooth or very finely striate, weakly curved or straight, running along anterior ⅔ of lower part of mesopleura. Prepectal carina distinct, rather narrow ventrally, without widened lobes opposite fore coxae. Subalar depression rather shallow, wide, coarsely and irregularly striate. Metanotum with short pointed tooth. Metapleural lobe rather long, wide and rounded apically.

Wings. Length of fore wing 3.5 times its maximum width. Radial cell not shortened. Metacarpus 1.4–1.5 times as long as pterostigma. Radial vein arising from middle of pterostigma. First radial abscissa forming very obtuse angle with second abscissa. Second radial abscissa 2.5 times as long as first abscissa, 0.4 times as long as third abscissa, 1.2–1.5 times as long as first radiomedial vein. Second radiomedial cell not widened distally, its length 2.8–3.3 times maximum width, 1.2–1.3 times length of rather narrow brachial cell. First medial abscissa weakly S-shape. Recurrent vein postfurcal. Mediocubital vein weakly curved to anal vein in distal half. Distance from nervulus to basal vein about 0.5 times nervulus length. Brachial cell rather sharply and linearly closed before level of recurrent vein; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) shortly present. Hind wing 5.0 times as long as wide. First costal abscissa 0.5–0.6 times as long as second abscissa. First abscissa of mediocubital vein 0.6 times as long as second abscissa. Recurrent vein short, unsclerotized, shortly antefurcal.

Legs. Hind femur with weak dorsal protuberance, its length about 3.0 times maximum width. Hind tarsus 0.9–1.0 times as long as hind tibia. Hind tibia thickened, apically with 3 outside spines. Hind basitarsus 0.7–0.8 times combined length of second-fifth segments. Second tarsal segment 0.4 times as long as basitarsus, 1.6–1.7 times as long as fourth segment, 0.9–1.0 times as long as fifth segment (without pretarsus).

Metasoma 1.1–1.2 times as long as head and mesosoma combined, with 6 visible tergites. Apical width of first tergite 1.8–2.2 times its basal width; its length 1.0–1.2 times maximum width. Second tergite without basal area, with deep and weakly concavely curved transverse furrow and distinctly separated lenticular apical area, this area 1.25–1.4 times as long as rest part of tergite. Median length of second tergite 0.5 times its basal width, 1.3–1.4 times length of third tergite. Second suture deep. Sixth tergite medium size, weakly rounded or straight in posterior margin, without median emargination and posteroventral lobes. Sixth tergite 0.9–1.1 times as long as fifth tergite, 1.2–1.3 times as long as fourth tergite. Ovipositor sheath 0.35–0.4 times as long as metasoma, 1.4–1.5 times as long as first tergite, 0.6–0.65 times as long as mesosoma, 0.25–0.3 times as long as fore wing.

Sculpture and pubescence. Vertex and temple smooth; frons smooth, but finely rugulose or striate anteriorly; face rugose-striate, widely or narrowly smooth medially. Sides of pronotum mostly rugulose. Mesoscutum and scutellum densely granulate, mesoscutum rugose on narrow area in medioposterior ⅓. Mesopleura smooth. Metapleura densely granulate-rugose in anterior half, rugose in posterior half. Propodeum with large, coriaceous or almost smooth in anterior half and rugose or granulate in posterior half marginate basolateral areas; with median carina in basal ⅓; rest part of propodeum coarsely rugose-reticulate. Hind coxa smooth laterally, granulate-striate dorsally. Hind femur finely striate dorsally, smooth at most part. First tergite with complete dorsal carinae, entirely densely striate. Second tergite coarsely and curvedly or longitudinally striate, its apical area finely or distinctly striate, sometimes almost smooth medially. Third tergite in basal ⅓–⅔, fourth and fifth in basal ½–⅔ longitudinally striate. Sixth tergite basally finely coriaceous-striate or striate in basal ¼. Rest parts of third-sixth tergites smooth. Second-fifth tergites laterally distinctly longitudinally striate almost entirely or in basal ⁴/₅, smooth in apical ¹/₅–¼. Vertex with short sparse semi-erect hairs, situated submarginally and directed forward. Mesoscutum entirely with dense semi-erect rather short yellowish hairs. Mesopleura glabrous for most part. Hind tibia with semi-erect rather dense white hairs dorsally; length of these hairs 0.6–0.7 times maximum width of hind tibia.

Colour. Head and mesosoma black, most part of promesosoma yellowish brown or reddish brown, mesopleura and sometimes metasoma reddish brown to light reddish brown, first tergite darker; in paratype,

metasoma black with light reddish brown 2 transverse stripes and apex. Antenna reddish brown or dark reddish brown, almost black in apical half, sometimes 2 basal segments brownish yellow. Palpi yellow. Legs brownish yellow, paler basally. Ovipositor sheath black, brown basally. Wings faintly infuscate. Pterostigma brown or brownish, pale basally.

Male unknown.

Diagnosis. This species is similar to *Rh. nadezhdae* (Tobias et Belokobylskij), but differs from the latter in the temple, mesosoma, first and second tergites and ovipositor sheath being shorter, the mesoscutum being shorter and entirely setose, the pronotal carina situated more closely to mesoscutum, and the pterostigma being darker.

Etymology. From the mountain Tianmushan, type locality of the species.

Distribution. China (Zhejiang).

Rhaconotus yaoae sp. nov.
(Figs 132–142)

Type material. Holotype: female, China, Zhejiang prov., Gutian Shan, 18.VII.1992 (Chen Xuexin), No 923493 (ZJUH).

Description. Female. Body length 3.6 mm; fore wing length 3.0 mm. Head width 1.7 times its median length. Head behind eyes roundly narrowed; temple 0.6 times as long as transverse diameter of eye. Ocelli small, in almost equilateral triangle; POL 1.3 times Od, 0.4 times OOL. Eye glabrous, weakly emarginated opposite antennal sockets, 1.2 times as high as broad. Malar space height 0.6 times height of eye, almost equal to basal width of mandible. Face width 1.1 times height of eye and 1.3 times height of face and clypeus combined. Malar suture very fine. Upper margin of clypeus situated almost on lower level of eyes. Hypoclypeal depression round, its width 0.7 times distance from edge of depression to eye. Occipital carina not fused with hypostomal carina below being obliterated for rather long distance upper base of mandible. Vertex distinctly convex.

Antennae almost filiform, 36-segmented, distinctly longer than body. Length of scapus 1.6 times its maximum width. First flagellar segment 4.3 times as long as its apical width, 0.9 times as long as second segment. Penultimate segment 3.3 times as long as wide, 0.6 times as long as first segment, 0.9 times as long as apical segment; the latter with very short apical spine.

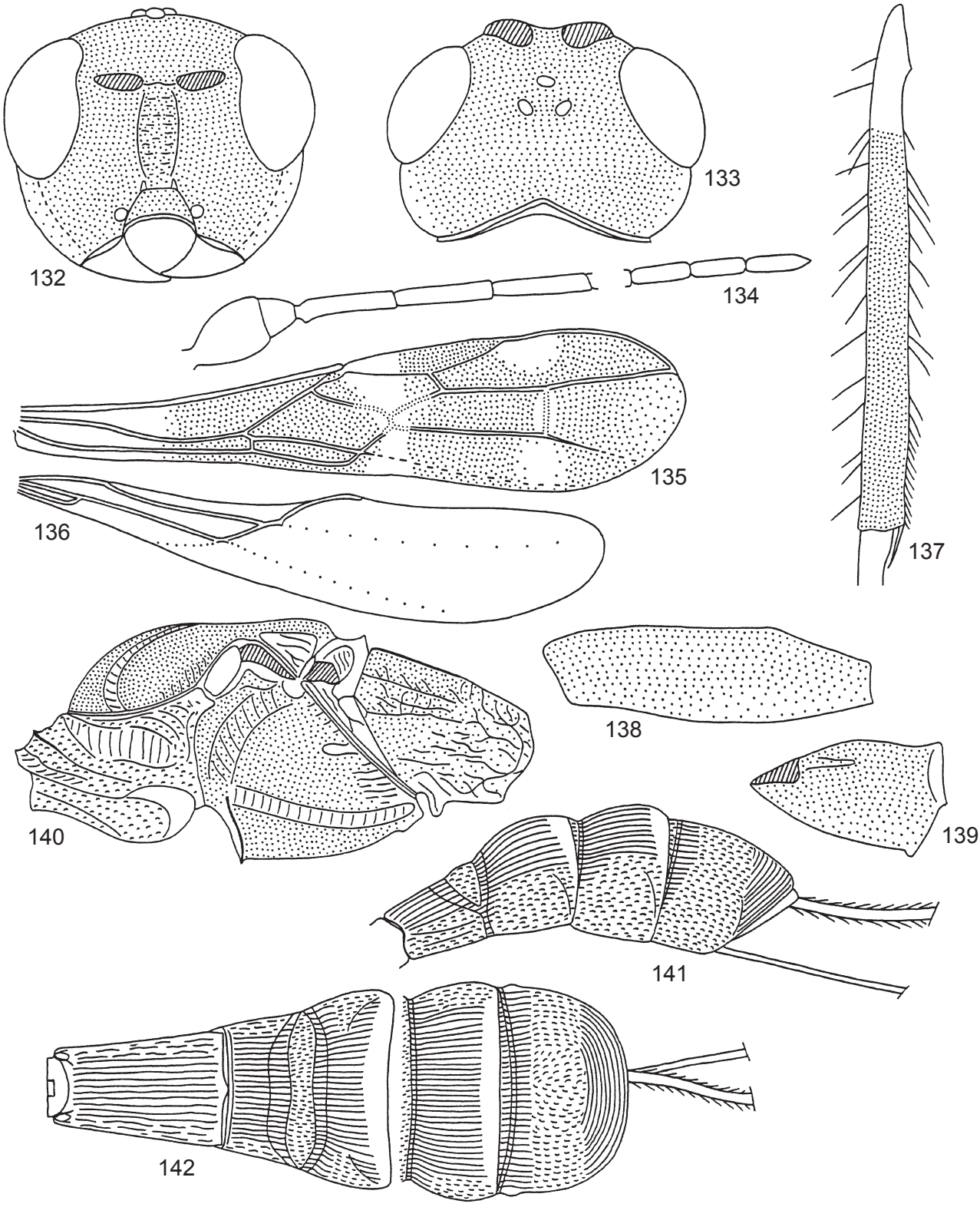
Mesosoma. Length twice its height. Pronotum anteriorly straight (dorsal view), more or less regularly weakly convex (lateral view). Pronotal carina distinct, but fine, widely separated medially from posterior margin of pronotum; distances from carina to anterior and posterior margins of pronotum subequal. Mesoscutum highly and roundly raised above pronotum. Notauli rather deep, complete and crenulate. Mesoscutum without median depression. Prescutellar depression distinct, deep, weakly and roundly directed posterolaterally, with median carina, sparsely rugulose, 0.4 times as long as convex scutellum. Sternauli rather shallow (especially posteriorly), crenulate, weakly curved, running along entire lower part of mesopleura. Prepectal carina distinct, wide ventrally, without widened lobes opposite fore coxae. Subalar depression deep, narrow, crenulate. Metanotum with short pointed tooth. Metapleural lobe distinct, rather narrow and rounded apically.

Wings. Length of fore wing 4.0 times its maximum width. Radial cell not shortened. Metacarpus 1.2 times as long as pterostigma. Radial vein arising from middle of pterostigma. First radial abscissa forming distinct angle with second abscissa. Second radial abscissa 5.0 times as long as first abscissa, 0.8 times as long as third abscissa, 1.8 times as long as first radiomedial vein. Second radiomedial cell weakly widened distally, its length 3.5 times maximum width, 1.5 times length of narrow brachial cell. First medial abscissa weakly S-shape. Recurrent vein distinctly postfurcal. Mediocubital vein distinctly curved to anal vein in distal half. Distance from nervulus to basal vein 0.8 times nervulus length. Brachial cell rather sharply and roundly closed almost on level of recurrent vein; posterior bulla on brachial vein present; posterior abscissa of anal vein (behind brachial vein) absent. Hind wing 5.3 times as long as wide. First costal abscissa 0.55 times as long as second abscissa. First abscissa of mediocubital vein 0.4 times as long as second abscissa. Recurrent vein long and unsclerotized.

Legs. Hind femur with dorsal protuberance, its length 3.4 times maximum width. Hind tarsus almost as long as hind tibia. Hind tibia apically with 2 spines on outside margin. Hind basitarsus 0.7 times combined length of second-fifth segments. Second tarsal segment 0.5 times as long as basitarsus, 2.4 times as long as fourth segment, 1.6 times as long as fifth segment (without pretarsus).

Metasoma slightly longer than head and mesosoma combined, with 5 visible tergites. Apical width of first tergite twice its basal width; its length 1.6 times apical width. Second tergite without basal area, with rather distinct shallow and weakly curved transverse furrow and distinctly separated narrow apical area, this area 0.8 times as long as rest part of tergite. Median length of second tergite 0.7 times its basal width, 1.4 times length of third tergite. Second suture deep and wide. Fifth tergite large, regularly rounded in posterior margin, without median emargination and posteroventral lobes. Fifth tergite 1.5 times as long as fourth tergite, 1.8 times as long as third tergite. Ovipositor sheath 1.3 times as long as metasoma, 4.0 times as long as first tergite, 0.85 times as long as fore wing.

Sculpture and pubescence. Head densely granulate, face additionally with fine rugulosity medially. Sides



Figures 132–142. *Rhaconotus yaoae* sp. nov. (132) Head, frontal view; (133) head, dorsal view; (134) basal and apical segments of antenna; (135) fore wing; (136) hind wing; (137) hind tibia; (138) hind femur; (139) hind coxa; (140) mesosoma, lateral view; (141) second-fifth tergites of metasoma, lateral view; (142) metasoma, dorsal view.

of pronotum coarsely and sparsely rugose, granulate below. Mesoscutum and scutellum densely granulate, mesoscutum with 2 convergent striae medioposteriorly and fine rugosity between them. Mesopleura, granulate coriaceous below sternauli. Metapleura rugulose, granulate anteriorly. Propodeum without marginate areas, with median carina in basal ⅓, densely reticulate-rugulose, granulate anteriorly. Legs densely granulate-coriaceous. First tergite without dorsal carinae. First and second tergites entirely, third and fourth for most part striate with fine rugulae between striae; third and fourth tergites smooth posteriorly. Fifth tergite striate basally, concentrically striate for most apical part, coriaceous mediobasally. Second-fourth tergites laterally weakly striate, with sparse rugae, densely granulate-reticulate. Vertex with long and very sparse semi-erect yellowish hairs directed toward ocelli. Mesoscutum with sparse semi-erect yellowish hairs arranged along notauli only. Hind tibia with semi-erect sparse white hairs dorsally; length of these hairs 0.8–1.0 times maximum width of hind tibia.

Colour. Body black, head reddish brown, mesosoma reddish in anterior half. Antennae light reddish brown in anterior ⅔, darkened toward apex. Palpi dark reddish brown. Legs reddish brown, partly darkened; middle and hind tibiae basally and all tarsi light or yellowish brown. Ovipositor sheath black. Wings distinctly infuscate, with hyaline parts in large area basally, narrow stripe in beginning of pterostigma, small round spots in radial cell and around second radiomedial vein. Pterostigma dark brown, whitish yellow in basal ⅓.

Male unknown.

Diagnosis. This species is similar to *Rh. cassander* Nixon (S. Africa), but differs from the latter in the occipital carina being shortly obliterated ventrally, the first flagellar segment and mesosoma being short, the dorsope of first tergite being small, the posterior transverse area on second tergite being distinct, the ovipositor being long, the vertex being only granulate, the fifth tergite being concentrically striate in posterior half, and the hind tibia being with long hairs dorsally.

Etymology. This species is named in honour of Mrs Yaping Yao, the wife of the second author.

Distribution. China (Zhejiang).

Rhaconotus aciculatus Ruthe

Rhaconotus aciculatus Ruthe, 1854: 349; Nixon 1941: 473; Shenefelt and Marsh 1976: 1335; Belokobylskij 1990: 145; 1994: 350; 1998: 69.

Material. China: 1 female, Zhejiang prov., Quzhou, 9.VII.1986, (Qianying), No. 862141; 1 female, Heilongjiang prov., Jingpohu, 26.VIII.1995 (Lou Juxian), No. 962224; 1 female, Liaoning prov, Shengyang, Dongling, 9.VII.1992 (Lin Naqian), No. 20004541; 1 female, Fujian prov., Chong'an, Sangang, 5.VII.1985 (Huang Donghong), No. 20004256 (all in ZJUH).

Distribution. China (Heilongjiang, Liaoning, Zhejiang, Fujian) (**new record**); West and Central Europe, Israel, Russia (including Far East), Armenia, Georgia, Kazakhstan, Tadjikistan, Turkmenistan, Uzbekistan, Kirgizia, Mongolia, Korea.

Hosts. *Anthaxia lgockii* Obenberger (Buprestidae), *Lixus lukjanovitschi* Ter-Minassian (Curculionidae).

Rhaconotus concinnus (Enderlein)

Chremylus concinnus Enderlein, 1912: 23; Watanabe 1937: 43; Shenefelt 1975: 1156.
Rhaconotus concinnus: Belokobylskij 1994: 341; 1996: 155.

Material. China: 1 female, (lectotype: Belokobylskij 1994), Taiwan, "Formosa, Takao, H. Sauter S. 21.IV.[19]07", "Type" (red), "*Chremylus concinnus* Enderl., female, Type, Dr. Enderlein det. 1912" (MIZW); 1 female, Guangdong prov., Guangzhou, grass, 16.VI.1989 (E. Sugonyaev) (ZISP).

Distribution. China (Taiwan, Guangdong); Vietnam.

Rhaconotus formosanus Watanabe

Rhaconotus formosanus Watanabe, 1934b: 119; Shenefelt and Marsh 1976: 1337; Belokobylskij 1994: 344; 1996: 161.

Material. China: 1 female (holotype), Taiwan, "Kankau (Koshun), Formosa, H. Sauter, 1912", "22. IV.", "*Rhaconotus formosanus* Watanabe, Type" (DEI); 1 female, Taiwan, "Takao, Formosa, 21.4.[19]07, Hans Sauter" (DEI); 1 male, Taiwan, "Kenting, 26–31.VIII.1983, J.B. Heppner, light trap" (TAMU); 1 female, Taiwan, Wushe, 1150 m, 16.III.1983 (H. Townes) (AEIG); 1 female, Hainan I., Tien Fong Mts, v.[19]83 (Z. Boucek) (BMNH); 1 female, "Tien-Mu-Shan, W. Chekiang (= Zhejiang prov.), China, 7.VI.1933, Col.", "254" (ZJUH); 1 female, Zhejiang prov., Linan County, West Tianmu Mt., 16–17.IX.2000 (S. Belokobylskij) (ZISP).

Distribution. China (Taiwan, Hainan, Zhejiang); Russia (south of Far East), Korea, Vietnam, Malaysia, Indonesia.

Remark. Two females of this species from Zhejiang Province have smooth or almost smooth most part of third-sixth tergites, which is treated here only as morphological variation.

Rhaconotus hexatermus Belokobylskij

Rhaconotus hexatermus Belokobylskij, 1988: 98.

Material. China: 1 female (holotype), Guangdong prov., Guangzhou (Kanton), margin of forest, citrus plantation, 10.XI.1986 (E. Sugonyaev) (ZISP). Vietnam: 5

females, prov. Ha Son Bihn, Ky Son, Cao Phong, forest, 25 & 28.X.1990 (S. Belokobylskij) (ZISP); 1 female, prov. Ha Son Binh, Da Bac, Tuly, 21.X.1990 (E. Nartshuk) (ZISP).

Distribution. China (Guangdong); Vietnam (**new record**).

Rhaconotus menippus Nixon

Rhaconotus menippus Nixon, 1939: 123; Shenefelt and Marsh 1976: 1339.

Material. China: 1 female, Guizhou prov., Dushan, 27.IV.1980 (Zhou Shengzhou), N 860183 (ZJUH); 1 female, Yunnan prov., Menghai, 18.IV.1981 (He Junhua), N 811746 (ZJUH).

Distribution. China (Guizhou, Yunnan) (**new record**); India, S. Africa, Uganda.

Rhaconotus nadezhdae (Tobias et Belokobylskij)

Ipodoryctes nadezhdae Tobias et Belokobylskij, 1981: 354.
Rhaconotus nadezhdae: Belokobylskij, 1994: 342;1998: 69.

Material. China: 1 female, Yunnan prov., Sanchahe, 12.IV.1981 (He Junhua), No 811930 (ZJUH); 1 female, Fujian prov., Jiangle, Longqishan, 2.VII.1991 (Liu Changmin), No 20006719 (ZJUH).

Distribution. China (Fujian, Yunnan) (**new record**); Russia (south of Far East), Korea.

Rhaconotus sauteri (Watanabe)

Spathiohormius sauteri Watanabe, 1934a: 189.
Platyspathius sauteri: Shenefelt and Marsh 1976: 1385.
Rhaconotus sauteri: Belokobylskij 1996: 157.
Rhaconotus cleanthes Nixon, 1939: 125; Belokobylskij 1996: 157 (as synonym).

Material. China: 1 female (holotype), Taiwan, "Anping, Formosa, H. Sauter", "7 VIII", "*Spathiohormius sauteri* Watanabe, female, Type" (DEI); 1 female (paratype), Taiwan, "Tainan, Formosa, H. Sauter, IV. [19]12", "Paratype", "*Spathiohormius sauteri* Watanabe, female, det. C. Watanabe" (DEI); 1 female, Taiwan, "Taihorin, Formosa, H. Sauter, 1911", "7.XI." (DEI); 2 females, Taiwan, Wufeng, 20.III. and 10.IV.1983 (H. & M. Townes) (AEIG); 1 female, Guangdong prov., Ding-Hu Mts., 60 km W of Guangzhou, V.1983 (Boucek) (BMNH).

Distribution. China (Guangdong, Taiwan); Vietnam, India.

Rhaconotus schoenobivorus (Rohwer)

Hormiopterus choenobivorus Rohwer, 1918: 570.
Rhaconotus schoenobivorus: Shenefelt and Marsh 1978: 1341; He 1984: 199.

Material. China: 13 females, 1 male, Yunnan prov., Yuanjiang, 12–22.VI.1980 (Zhang Beiyuan), ex. *Tryporyza incertulas* (Walker), No. 81494; 1 female, Yunnan prov., Mangshi, 9–11.V.1981 (He Junhua), No. 814235; 11 females, 1 male, Guangdong prov., Qingan, IX.1981, Research Group of Plant Protection, Guangdong Academy of Agricultural Sciences, ex. *Tryporyza incertulas* (Walker), No. 820710 (all in ZJUH).

Distribution. China (Taiwan, Yunnan, Guangdong); Indonesia, Malaysia, Vietnam.

Hosts. *Scirpophaga incertulas* (Walker), *Chilo suppressalis* Walker (Pyralidae).

Rhaconotus signatus Belokobylskij

Rhaconotus signatus Belokobylskij, 2001: 125.

Material. China: 4 females, Zhejiang prov., Linan County, West Tianmu Mt, 16–17.IX.2000 (S. Belokobylskij) (ZISP, ZJUH); 1 female, Guangdong prov., Ding-Hu Mts, 60 km W of Guangzhou, V.1983 (Boucek) (BMNH)

Distribution. China (Zhejiang, Guangdong); Japan, Vietnam.

Rhaconotus signipennis (Walker)

Spathius signipennis Walker, 1860: 309.
Rhaconotus signipennis: Nixon 1939: 127; Shenefelt and Marsh 1976: 1341; Belokobylskij 2001: 134.
Rhaconotus carolinensis Watanabe, 1945: 49; Shenefelt and Marsh, 1976: 1336; Belokobylskij 2001: 134 (as synonym of *Rh. signipennis*).
Dendrosotinus flavistigmus Belokobylskij 1983: 184; 2001: 135 (as synonym of *Rh. signipennis*).

Material. China: 1 female, Taiwan, Wushe, 1150 m, 23.III.1983 (H. and M. Townes) (AEIG); 1 female, Taiwan, "Formosa, Sauter", "Koshun, 908.VIII" (HNHM).

Distribution. China (Taiwan); Russia (south of the Far East), Indonesia, Vietnam, India, Sri Lanka.

Rhaconotus testacea (Szepligeti)

Rhadinogaster testacea Szepligeti, 1908: 224.
Rhaconotus testacea: Shenefelt and Marsh 1976: 1347; Belokobylskij 2001: 133.
Hormiopterus sulcativentris Enderlein, 1912: 24.
Rhaconotus sulcativentris: Shenefelt and Marsh 1976: 1342; Belokobylskij 1996: 158; 1998: 69 (as synonym).
Rhaconotus oryzae Wilkinson, 1929: 205; Shenefelt and Marsh 1976: 1340; Belokobylskij 1990: 159; 1996: 159 (as synonym).
Rhaconotus flavistigma Telenga, 1941: 68; Shenefelt and Marsh 1976: 1337; Belokobylskij 1990: 159; 1996: 159.

Material. China: 1 female, Yunnan prov., Ruili, 1.V.1981, collected from paddy field (Zheng Weijun),

No 814230 (ZJUH); 1 female, Fujian prov., Tongmu, X.1979 (Huang Juchang), No 880796 (ZJUH).

Distribution. China (Taiwan, Yunnan, Fijian); Korea, Vietnam, Indonesia, India, Tadzhikistan.

Rhaconotus thayi Belokobylskij

Rhaconotus thayi Belokobylskij, 2001: 130.

Material. China: 1 female (paratype), Taiwan, Taihorin, XI.1909 (H. Sauter) (HNHM); 1 female (paratype), Taiwan, Taihorinsho, X.1909 (H. Sauter) (HNHM).

Distribution. China (Taiwan); Vietnam.

Rhaconotus vagrans (Bridwell)

Hormiopterus vagrans Bridwell, 1920: 321.
Rhaconotus vagrans: Shenefelt and Marsh 1976: 1342; Belokobylskij 1994: 347; 1996: 161.

Material. China: 1 female, Taiwan, Wushe, 1150m, 10.V.1983 (H. Townes) (AEIG).

Distribution. China (Taiwan); Hawaii, Russia (south of Far East), Korea, Vietnam.

Rhaconotus zarudnyi Belokobylskij

Rhaconotus zarudnyi Belokobylskij, 1990: 160.

Material. China: 1 female, Fujian prov., Shaxian, 1.XI.1980 (He Junhua), No 803784 (ZJUH). Vietnam: 1 female, prov. Gia Lai – Con Tum, 20 km N Buon-Luoi, Tram Lap, 21–30.XI.1988 (Sharkov) (ZISP).

Distribution. China (Fujian) (**new record**); Vietnam (**new record**), Iran.

Key to Chinese species of *Rhaconotus* Ruthe

1. Metasoma in normal condition with 5 visible tergites **2**
–. Metasoma in normal condition with 6 visible tergites **10**
2. Second tergite in posterior half without lenticular area bordered by deep curved furrow, rarely with very shallow additional transverse furrow. [Propodeum without marginate basolateral areas (*aciculatus*-group)] **3**
–. Second tergite in posterior half with lenticular area distinctly bordered by deep curved furrow (*testaceiceps*-group) **6**
3. Mesoscutum sparsely and narrowly setose along notauli and marginally only. Pterostigma dark brown, pale basally and apically **4**
–. Mesoscutum densely setose for most part or widely along notauli and marginally. Pterostigma pale brown or yellow entirely **5**
4. Fifth tergite with distinct lateral lobe posteroventrally. First-fourth tergites distinctly carinate laterally above spiracles, sides of tergites forming more or less at right angles with dorsal surface of tergites. [Body length 2.8–3.7 mm; China (Guangdong, Taiwan); Vietnam, India] . . . . . ***Rh. sauteri*** (Watanabe)
–. Fifth tergite without lateral posteroventral lobe. First-fourth tergites not carinate laterally, roundly curved at sides. [Body length 2.0–4.0 mm; China (Heilongjiang, Liaoning, Zhejiang, Fujian), West and Central Europe, Israel, Russia (including Far East), Armenia, Georgia, Kazakhstan, Tadjikistan, Turkmenistan, Uzbekistan, Kirgizia, Mongolia, Korea] . . . . . ***Rh. aciculatus*** Ruthe
5. Mesoscutum rather highly and roundly raised above pronotum. Hind femur 3.5–3.7 times as long as wide. Second metasomal suture strongly concavely curved. Ovipositor longer, 2.7–3.3 times as long as first metasomal tergite, 0.55–0.7 times as long as fore wing. Hairs on dorsal side of hind tibia longer, its length 0.8–0.9 times maximum width of tibia. Body longer, 6.4–6.9 mm. [China (Yunnan, Fujian); Vietnam] . . . . . ***Rh. magnus*** sp. nov.
–. Mesoscutum weakly and gently-roundly raised above pronotum. Hind femur 3.0–3.2 times as long as wide. Second metasomal suture weakly concavely curved. Ovipositor shorter, 1.4–1.7 times as long as first metasomal tergite, 0.3–0.33 times as long as fore wing. Hairs on dorsal side of hind tibia shorter, its length 0.4–0.55 times maximum width of tibia. Body shorter, 3.5–3.9 mm. [China (Taiwan, Yunnan, Fijian); Korea, Vietnam, Indonesia, India, Tadzhikistan] . . . . . ***Rh. testacea*** (Szepligeti)
6. Fore wing distinctly infuscate, with several small hyaline areas. Metasoma distinctly widened toward fifth segment. Apical area of second tergite narrow and weakly constricted medially. First metasomal tergite 1.6 times as long as apical width. Ovipositor long, 1.3 times as long as metasoma, 0.85 times as long as fore wing. Second radiomedial cell long. Second radial abscissa 0.8 times third abscissa. [Body length 3.6 mm; China (Zhejiang)] . . . . . ***Rh. yaoae*** sp. nov.
–. Fore wing entirely and evenly faintly infuscate or hyaline. Metasoma weakly widened toward third segment. Apical area of second tergite wide and not constricted medially. First metasomal tergite 1.2–1.4 times as long as apical width. Ovipositor short, 0.4–0.6 times as long as metasoma, 0.25–0.5 times as long as fore wing. Second radiomedial cell short. Second radial abscissa 0.4–0.6 times third abscissa **7**
7. Pterostigma brown, yellow in basal ⅓ and apically. Fore wing entirely faintly infuscate. Fifth tergite in apical half granulate-reticulate with dense punctulation. Body usually dark reddish brown. [Body

length 3.2–4.5 mm; China (Guangxi, Yunnan); Vietnam, Thailand, India] . . . ***Rh. tergalis*** sp. nov.

–. Pterostigma entirely brownish yellow or yellow. Fore wing entirely hyaline. Fifth tergite in apical half smooth or finely reticulate, or sometimes distinctly striate. Body usually light reddish brown or brownish yellow, rarely (*Rh. oriens* sp. nov.) darkened **8**

8. Antenna 49-segmented. First flagellar segment 3.5–4.0 times as long as width, 1.2 times as long as second segment. Pronotum distinctly convex dorsally (lateral view). First radial abscissa forming almost one line with second abscissa. Second radiomedial cell about twice as long as wide. Fifth tergite striate in apical half, striae semicircular in posterior ¼. Vertex densely transversely undulately striate, with granulation between striae. Body longer, 6.0–6.1 mm. [Malar space long, its height 0.7 times height of eye, 1.2–1.3 times basal width of mandible; China (Fujian); Vietnam, Iran] . . . . . ***Rh. zarudnyi*** Belokobylskij

–. Antenna 23–28-segmented. First flagellar segment 4.8–5.5 times as long as width, almost as long as second segment. Pronotum almost straight dorsally (lateral view). First radial abscissa forming distinct angle with second abscissa. Second radiomedial cell 2.7–2.8 times as long as wide. Fifth tergite smooth in apical half. Vertex entirely granulate. Body shorter, 2.5–3.4 mm **9**

9. Malar space shorter, its height 0.3–0.35 times height of eye, 0.75–0.9 times basal width of mandible. Pronotal carina situated submedially. Sternauli almost straight. Second tergite 0.9–1.0 times as long as basal width; its apical area 0.8–1.0 times as long as rest part of tergite. Ovipositor sheath 0.25–0.3 times as long as fore wing. [Body length 2.5–3.0 mm; China (Taiwan, Guangdong); Vietnam] . . . . . ***Rh. concinnus*** (Enderlein)

–. Malar space longer, its height 0.55–0.6 times height of eye, 1.0–1.2 times basal width of mandible. Distance from pronotal carina to posterior margin of pronotum about 1.5 times distance from carina to anterior margin. Sternauli S-shape. Second tergite 0.7–0.75 times as long as basal width; its apical area 1.2–1.5 times as long as rest part of tergite. Ovipositor sheath 0.4–0.45 times as long as fore wing. [Body length 2.9–3.4 mm; China (Fujian); Japan, Korea] . . . . . ***Rh. oriens*** sp. nov.

10. First metasomal tergite very long, 2.5–2.8 times as long as its apical width. Mesosoma 2.7–2.9 times as long as high (*jacobsoni*-group). [Hind tibia entirely black or almost black. Mesoscutum and vertex with dense and long hairs. Body length 5.7–8.1 mm; China (Taiwan); Vietnam] . . . . . ***Rh. thayi*** Belokobylskij

–. First metasomal tergite shorter, 1.1–1.8 times as long as its apical width or (rarely) equal to it. Mesosoma 2.0–2.4 times as long as high **11**

11. Second tergite without distinctly separated or smooth apical area (*hexatermus*-group) **12**

–. Second tergite with apical area, separated by deep curved furrow, if furrow indistinct, than apical area smooth and distinctly contrasting with strongly sculptured rest part of tergite **13**

12. Sixth tergite with distinct median emargination on posterior margin. Propodeum with marginate areola. Vertex distinctly transversely striate. Mesoscutum with hairs situated rather widely along notauli. Body black for most part. Pterostigma dark brown, yellow basally. [Body length 5.0 mm; China (Fujian)] . . . . . ***Rh. fujianus*** sp. nov.

–. Sixth tergite without median emargination on posterior margin. Propodeum without marginate areola. Vertex smooth or almost smooth. Mesoscutum entirely setose. Body entirely yellow. Pterostigma yellow. [Body length 2.6–3.7 mm; China (Guangdong); Vietnam] . . . . . ***Rh. hexatermus*** Belokobylskij

13. Basal area of second tergite present, usually smooth. Apical area of second tergite narrow, transverse and smooth mostly, not separated by additional furrow. [Mesoscutum entirely densely setose] (*signipennis*-group) **14**

–. Basal area of second tergite absent. Apical area of second tergite wide, lenticular and usually sculptured, distinctly separated by additional furrow (except *Rh. heterotrichus* sp. nov. and *Rh. ipodoryctoides* sp. nov.) (*concolor*-group) **17**

14. Pterostigma brown medially, yellow basally and apically. [Body length 1.5–4.5 mm; China (Zhejiang, Guangdong); Japan, Vietnam] . . . . . ***Rh. signatus*** Belokobylskij

–. Pterostigma entirely yellow or light brown **15**

15. Second tergite shorter, its basal width about 3.0 times its length. [Body length 2.8–3.7 mm; China (Taiwan); Hawaii, Korea, Vientam, Russia (South of Far East)] . . . . . ***Rh. vagrans*** (Bridwell)

–. Second metasomal tergite longer, its basal width 2.0–2.6 times its length **16**

16. Ovipositor sheath long, 2.5–3.5 times as long as first tergite, 0.36–0.52 times as long as fore wing. [Body length 1.8–5.2 mm; China (Taiwan, Hainan); Russia (South of Far East), Korea, Vietnam, Malaysia, Indonesia] . . . . . ***Rh. formosanus*** (Watanabe)

–. Ovipositor sheath short, 1.5–2.1 times as long as first tergite, 0.26–0.34 times as long as fore wing. [Body length 2.2–3.2 mm; China (Taiwan); Russia (south of Far East), Vietnam, Indonesia, India, Sri Lanka] . . . . . ***Rh. signipennis*** (Walker)

17. Vertex entire smooth or almost smooth. Mesopleura usually smooth for most part (except *Rh. chinensis* sp. nov.) **18**

–. Vertex entire or for most part sculptured. Mesopleura usually sculptured (sometimes finely) at least in upper ⅔ **21**

18. Mesoscutum and mesopleura coriaceous. Mesoscutum with long erect and rather sparse hairs along notauli and marginally. Sixth tergite large, concealed succeeding segments, almost entirely striate, almost twice as long as fifth segment. Abscissa of longitudinal anal vein (behind brachial vein) absent. Brachial cell gently closed apically. Hind tibia with erect sparse hairs dorsally. [Body length 5.9–8.4 mm; China (Taiwan, Yunnan)] . . . . . ***Rh. chinensis*** sp. nov.

–. Mesoscutum distinctly granulate, mesopleura smooth for most part. Mesoscutum entirely or for most part with short semi-erect dense hairs. Sixth tergite not large, partly concealed succeeding segments, smooth for most part, 0.85–1.1 times as long as fifth tergite. Abscissa of longitudinal anal vein (behind brachial vein) present. Brachial cell rather sharply closed apically. Hind tibia with semi-erect and rather dense hairs dorsally. **19**

19. Second tergite 0.5 times as long as basal width. First tergite 1.0–1.2 times as long as apical width. Mesosoma 1.8–1.85 times as long as height. Temple 0.45–0.5 times as long as transverse diameter of eye. Lateral lobes of mesoscutum entirely setose. Ovipositor sheath shorter, 0.25–0.3 times as long as fore wing. Pterostigma brown. [Body length 2.9–3.6 mm; China (Zhejiang)] . . . . . ***Rh. tianmushanus*** sp. nov.

–. Second tergite 0.7–1.0 times as long as basal width. First tergite 1.3–1.7 times as long as apical width. Mesosoma 2.2–2.4 times as long as height. Temple 0.6–0.7 times as long as transverse diameter of eye. Lateral lobes of mesoscutum with distinct glabrous areas. Ovipositor sheath longer, 0.35–0.45 times as long as fore wing. Pterostigma brownish yellow or yellow **20**

20. First metasomal tergite 1.3–1.4 times as long as apical width. Length of second tergite 0.7–0.8 times its basal width. Hind coxa almost entirely smooth. [Body length 2.4–3.5 mm; China (Yunnan, Fujian); Russia (south of Far East), Korea]. . . . . ***Rh. nadezhdae*** (Tobias et Belokobylskij)

–. First metasomal tergite 1.6–1.7 times as long as apical width. Length of second tergite 0.9–1.0 times its basal width. Hind coxa dorsally partly rugulose. [Body length 2.8–3.4 mm; China (Henan, Guizhou); Russia (south of Far East)] . . . ***Rh. iterabilis*** sp. nov.

21. Apical area of second tergite usually smooth, narrow, without distinctly separating furrow anteriorly. Sternauli short, running in anterior ⅔ of lower part of mesopleura. Mesopleura smooth for most part **22**

–. Apical area of second tergite sculpture, wide, with distinctly separating furrow anteriorly. Sternauli long, running along entire length of lower part of mesopleura. Mesopleura sculptured for most part **23**

22. Ocelli in triangle with base 1.15–1.25 times its sides. Hind femur wider, about 3.5 times as long as wide. First tergite shorter, 1.1–1.2 times as long as apical width. Ovipositor sheath shorter, 0.7–0.9 times as long as mesosoma, 0.3–0.4 times as long as fore wing. Vertex with sparse hairs. Mesopleura widely glabrous submedially. [Body length 2.5–4.1 mm; China (Yunnan, Fujian, Zhejiang); Vietnam, Thailand, Malaysia]. . . . ***Rh. heterotrichus*** sp. nov.

–. Ocelli in almost equilateral triangle. Hind femur slender, 4.2 times as long as wide. First tergite longer, 1.5 times as long as apical width. Ovipositor sheath longer, 1.3 times as long as mesosoma, 0.55 times as long as fore wing. Vertex with dense hairs. Mesopleura entirely setose. [Body length 3.3 mm; China (Fijian)]. . . . . ***Rh. ipodoryctoides*** sp. nov.

23. Vertex with very dense and rather long hairs. Lateral lobes of mesoscutum glabrous at narrow median areas. Apical area of second tergite rather narrow, separated by wide and rather shallow furrow and suture. Fore wing maculate. Hind leg (except tarsus) dark brown for most part. Mesosoma 2.4 times as long as height. First abscissa of mediocubital vein of hind wing 0.45 times as long as second abscissa. Occipital carina not fused with hypostomal carina below. [Body length 7.0 mm; China (Fujian)]. . . . ***Rh. luteosetosus*** sp. nov.

–. Vertex with rather sparse and short hairs. Lateral lobes of mesoscutum entirely setose. Apical area of second tergite rather wide, separated by narrow and deep furrow and suture. Fore wing evenly faintly infuscate or subhyaline. Hind leg almost entirely yellow or light brown. Mesosoma 1.8–2.0 times as long as height. First abscissa of mediocubital vein of hind wing 0.6–0.7 times as long as second abscissa. Occipital carina fused with hypostomal carina below **24**

24. Sixth tergite smooth at least in apical half. Vertex densely granulate, without rugosity or striation. Second radiomedial cell usually short **25**

–. Sixth tergite distinctly semicircularly striate in apical half. Vertex densely granulate, with more or less distinct rugosity or striation. Second radiomedial cell usually long **26**

25. Additional furrow of second tergite almost straight. Apical area of second tergite shorter, about 0.6 times as long as rest part of tergite. Temple longer, transverse diameter of eye 1.7–1.8 times temple length. [Body length 3.7–4.0 mm; China (Taiwan, Yunnan, Guangdong); Vietnam, Malaysia, Indonesia] . . . . . ***Rh. schoenobivorus*** (Rohwer)

–. Additional furrow of second tergite distinctly arcuately curved. Apical area of second tergite longer, almost equal to rest part of tergite. Temple shorter, transverse diameter of eye 2.0–2.3 times temple length. [Body length 2.8–3.5 mm; China (Guizhou, Yunnan), India, S. Africa, Uganda] . . . . . ***Rh. menippus*** Nixon

26. Ovipositor shorter, its sheath 0.7–1.1 times as long as mesosoma, 0.35–0.47 times as long as fore wing. Hind femur 3.6–4.0 times as long as width. Apical area of second tergite 1.7–2.0 times as long as rest part of tergite. [Body length 2.3–3.6 mm; China (Yunnan); Vietnam, Thailand, Laos, Malaysia, India] . . . . . ***Rh. affinis*** sp. nov.
–. Ovipositor longer, its sheath 1.3–1.7 times as long as mesosoma, 0.6–0.8 times as long as fore wing. Hind femur 3.2–3.5 times as long as width. Apical area of second tergite 1.1–1.6 times as long as rest part of tergite. **27**
27. Head strongly and almost linearly narrowed behind eyes. Vertex distinctly rugulose-striate at least partly, with dense granulation. Second radiomedial cell shorter, its length 2.3–2.6 times maximum width. [Body length 3.2–4.6 mm; China (Yunnan); Vietnam, India, Nepal] . . . . . ***Rh. hei*** sp. nov.
–. Head less strongly and roundly narrowed behind eyes. Vertex finely striate with dense granulation, or rarely striae almost absent. Second radiomedial cell longer, its length usually 2.6–3.0 times maximum width. [Body length 3.0–3.7 mm; China (Yunnan); Vietnam] . . . . ***Rh. intermedius*** sp. nov.

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