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# Two new nematode species, *Paragendria papuanensis* sp. n. (Seuratoidea) and *Rhabdochona papuanensis* sp. n. (Thelazioidea), from freshwater fishes in Papua New Guinea

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Key words: parasitic nematode, *Paragendria*, *Rhabdochona*, freshwater fish, *Glossamia*, *Melanotaenia*, Papua New Guinea

**Abstract.** Two new nematode species, *Paragendria papuanensis* sp. n. (Quimperiidae) and *Rhabdochona papuanensis* sp. n. (Rhabdochonidae), are described from the intestine of freshwater fishes *Glossamia gjellerupi* (Weber et Beaufort) (Apogonidae) and *Melanotaenia affinis* (Weber) (Melanotaeniidae), respectively, from the Sogeram River (Ramu River basin), Madang Province, northern Papua New Guinea. The former species is characterized mainly by the absence of oesophageal teeth, the presence of conspicuously inflated papillae of the last two subventral pairs, a gubernaculum, spicules 69–75 μm long, eggs measuring 57–66 × 39–45 μm, and by a small body (male and female 3.2–3.7 and 5.8 mm long, respectively). *Paragendria* is considered a valid genus, to which *P. aori* (Khan et Yaseen, 1969) comb. n., *P. guptai* (Gupta et Masoodi, 2000) comb. n., *P. hanumanthai* (Gupta et Jaiswal, 1988) comb. n. and *P. vermae* (Gupta et Masoodi, 2000) comb. n. are newly transferred. *Rhabdochona papuanensis* differs from all congeners mainly in having hammer-shaped deirids and from individual species also in other characters. Both findings represent the first records of species of *Paragendria* and *Rhabdochona* from the Australian zoogeographical region and the first records of the representatives of these genera from fishes of the families Apogonidae and Melanotaeniidae, respectively.

Although the freshwater fauna of New Guinea is highly interesting from the zoogeographical point of view, to date there are almost no data on the helminth parasites of freshwater fishes from this region. Regarding nematodes, as far as the authors know, there is only one paper by Khalil (1984) reporting the ascaridoid *Brevimulticaecum scleropagi* Khalil, 1984 from the intestine of the Australian bonytongue *Scleropages jardinii* (Saville-Kent) (Osteoglossidae) from the Fly River in Papua New Guinea. Recent examinations of the alcohol-fixed viscera of a few specimens of Papua New Guinean freshwater fishes, the New Guinea rainbowfish *Melanotaenia affinis* (Weber) and the Gjellerup's mouth almighty *Glossamia gjellerupi* (Weber et Beaufort), revealed the presence of two new nematode species, which are described herein.

## MATERIALS AND METHODS

The nematodes were recovered *in situ* from alcohol-preserved hosts' viscera. The fish intestines were cut open and the removed nematodes were placed in vials with 70% ethanol. For light microscopy (LM), the nematodes were cleared with glycerine. Drawings were made with the aid of a Zeiss drawing attachment. After the LM examination, 1 specimen of each species was also used for scanning electron microscopy (SEM). The specimens were transferred to 4% formaldehyde solution and then post-fixed in 1% osmium tetroxide, dehydrated through a graded acetone series, critical point dried and sputter-coated with gold; they were examined using a JEOL JSM-6300 scanning electron microscope at an accelerating voltage of 15 kV. All measurements are in micrometres unless otherwise stated. The scientific names of fishes follow FishBase (Froese and Pauly 2008).

## DESCRIPTIONS

Fam. Quimperiidae Baylis, 1930

### *Paragendria papuanensis* sp. n. Figs. 1, 2

**Description.** Small whitish nematodes with smooth cuticle. Anterior end of body of fixed specimens dorsally bent. Oesophageal region of body slightly broader than posterior part of body. Head end rounded, without lateral lobes. Oral aperture circular, demarcated by narrow, slightly cuticularized ring and surrounded by four doubled submedian cephalic papillae and pair of lateral amphids (Fig. 2A). Buccal cavity poorly developed (Fig. 1C); bottom of mouth formed by flat surfaces of three oesophageal sectors without teeth (Fig. 2A). Broad lateral alae, widest in oesophageal region, extending along almost whole body length. Deirids large,

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situated at about mid-distance between nerve ring and end of oesophagus. Excretory pore somewhat posterior to level of nerve ring. Oesophagus long, slender, its posterior part only slightly expanded; part of oesophagus anterior to nerve ring muscular, its posterior part muscular-glandular. Anterior end of oesophagus somewhat expanded, with slightly outlined 'pharynx' (Fig. 1C). Tail of both sexes conical, sharply pointed.

**Male** (3 specimens; measurements of holotype in parentheses): Body 3.22–3.71 (3.71) mm long, maximum width at oesophageal region 78–82 (82). Maximum width of lateral alae 24 (24). Oesophagus 396–486 (486) long, its maximum width 27–33 (33). Nerve ring, excretory pore and deirids 162–189 (186), 216–243 (237) and 264–315 (315), respectively, from anterior extremity. Ventral muscular precloacal sucker present (Fig. 1F). Relatively long, well developed caudal alae starting somewhat anterior to level of ventral sucker and extending posteriorly to approximately mid-length of tail (Fig. 1F, H, I). Preanal papillae: 4 pairs of subventral papillae present, of which papillae of first pair large, rounded, not included in caudal alae, situated some distance anterior to precloacal sucker (Figs. 1F, 2C); papillae of remaining pairs pedunculate, supporting caudal alae, second pair being at level of sucker, third and fourth pairs spaced between sucker and cloacal opening (Figs. 1F, 2C, F); unpaired median sessile papilla present at level of fourth subventral pair (Figs. 1H, 2C, E, F). Adanal papillae: 1 pair of subventrals (Figs. 1H, I, 2C, E–G). Postanal papillae: 6 pairs present, of which three being subventral and three lateral; papillae of first two subventral pairs elongate, slender, those of posterior two pairs conspicuously inflated, broad; papillae of first lateral pair situated between first and third pairs of subventrals, second pair at level of third pair of subventrals, and third pair at level of fourth pair of subventrals (Figs. 1H, I, 2B, E, G). Spicules simple, equally long, measuring 69–75 (75), with sharply pointed distal ends. Gubernaculum wedge-shaped in lateral view, 27–30 (30) long. Tail conical, 126–135 (135) long, its posterior half in shape of slender spike.

**Female** (1 gravid specimen, allotype; measurements of 1 nongravid specimen in parentheses): Body 5.18 (2.94) mm long, maximum width 109 (68). Maximum width of lateral alae 27 (21). Oesophagus 540 (420) long, maximum width 45 (36). Nerve ring, excretory pore and deirids 207 (147), 258 (201) and 402 (258), respectively, from anterior extremity. Vulva situated in posterior half of body, 3.31 (1.99) mm from posterior end (at 64 (68) % of body length); anterior vulval lip somewhat elevated. Vagina short, muscular, directed anteriorly from vulva. Uterus amphidelphic, uterine tubes of gravid specimen containing 22 eggs arranged in single file. Eggs oval, thin-walled, size 57–66 × 39–45. Coils of posterior ovary reaching into tail. Tail slender, 180 (138) long, ending in sharp cuticular point.

Type host: Gjellerup's mouth almighty *Glossamia gjellerupi* (Weber et Beaufort) (Apogonidae, Perciformes).

Site of infection: Intestine.

Type locality: Wannang Brook, a small tributary of the Sogeram River (Ramu River basin), Madang Province, northern Papua New Guinea (collected in 2005).

Prevalence and intensity: 2 fish infected/3 fish examined; intensity 8 and 9 specimens.

Deposition of types: Holotype, allotype and paratypes in the Helminthological Collection of the Institute of Parasitology, Biology Centre of ASCR in České Budějovice (Cat. No. N-890).

Etymology: The specific name of this species relates to the name of the country of its origin, i.e., Papua New Guinea.

**Comments.** The general morphology of this species indicates that it belongs to the seuratoid family Quimperiidae, subfamily Quimperiinae. According to Moravec et al. (2002a, b), this subfamily includes a total of the following 15 genera: *Quimperia* Gendre, 1926; *Gendria* Baylis, 1930; *Ichthyobronema* Gnedina et Savina, 1930; *Pingus* Hsü, 1933; *Paraquimperia* Baylis, 1934; *Paragendria* Baylis, 1939; *Paraseuratum* Johnston et Mawson, 1940; *Buckleynema* Ali et Singh, 1954; *Chabaudus* Inglis et Ogden, 1965; *Ezonema* Boyce, 1971; *Paraseuratoides* Wang, 1984; *Desmognathinema* Baker, Goater et Esch, 1987; *Touzeta* Petter, 1987; *Neoparaseuratum* Moravec, Kohn et Fernandes, 1992; and *Gibsonnema* Moravec, Salgado-Maldonado et Aguilar-Aguilar, 2002. An additional genus *Neoquimperia* Wang, Zhao, Wang et Zhang, 1979 (see Wang et al. 1979), probably identical with *Paragendria* or *Ezonema*, can be considered a *genus inquirendum* because of a poor description of its type species. However, representatives of only eight of valid genera (*Buckleynema*, *Chabaudus*, *Ezonema*, *Paragendria*, *Pingus*, *Quimperia* and *Touzeta*) possess a precloacal sucker in the male. Of these, only species of *Ezonema*, *Paragendria* and *Pingus* are characterized by broad lateral alae extending along almost the whole body, whereas these are absent or reduced in other genera. *Ezonema* can be easily distinguished from the two last-named genera by the presence of conspicuously large deirids situated posterior to the oesophagus and highly reduced caudal alae in the male (Boyce 1971, Moravec and Nagasawa 1989). Consequently, the morphology of the new species most closely resembles that of *Pingus* and *Paragendria*; species of both these genera occur in East and South Asia, parasitizing mainly snakeheads (*Channa* spp., Channidae, Perciformes) and catfishes (Siluriformes), respectively.

Although *Pingus* and *Paragendria* (syn. *Metaquimperia* Karve, 1941, *Neometaquimperia* Agrawal, 1965 and *Wuinema* Yu et Wang, 1992 – see Chabaud 1978, Moravec et al. 2002a) are similar, they have mostly been considered valid (Ivashkin and Khromova 1976, Chabaud 1978, Soota 1983, Sood 1989). The latter genus allegedly differs from the former in that the oesophagus is swollen posteriorly and the buccal cavity is present but weakly developed (vs. oesophagus cylindri-

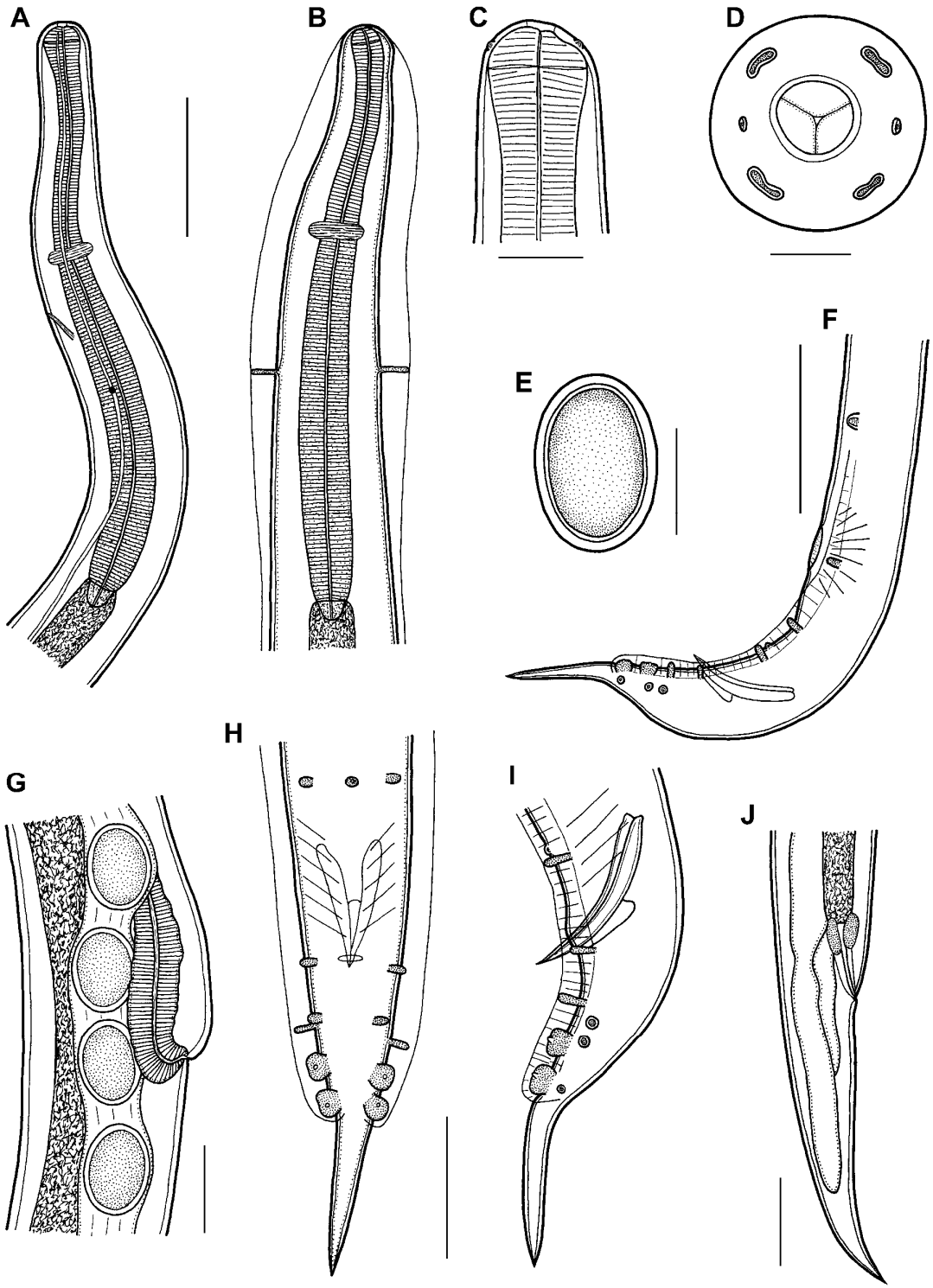


**Fig. 1.** *Paragendria papuanensis* sp. n. **A, B** – anterior part of body, lateral and dorsoventral views; **C, D** – cephalic end, lateral and apical views; **E** – egg; **F** – posterior part of body of male, lateral view; **G** – region of vulva, lateral view; **H, I** – caudal end of male, ventral and lateral views; **J** – tail of female, lateral view. Scale bars: A, B, F = 100 $\mu$m; C, G–J = 50 $\mu$m; D = 10 $\mu$m; E = 30 $\mu$m.

cal, buccal cavity absent) (Chabaud 1978, Soota 1983). However, in our opinion, these features are not probably of generic importance. Moreover, the situation is further complicated by the fact that practically all species of *Paragendria* are poorly described.

Gupta and Masoodi (2000) synonymized *Paragendria* with *Pingus*, but because descriptions of practically all species listed in *Paragendria* are poor and there seem to be some taxonomically important differences between representatives of both these genera (e.g., in the character of caudal alae and genital papillae), this synonymy can be considered questionable. Moreover, while redescribing *Pingus sinensis* Hsü, 1933, a type species of the genus, Moravec and Sey (1988a) found that it differed from the newly collected *Paragendria* sp. from a catfish in Vietnam in having distinct lateral lobes on the cephalic end and in some other features. Therefore, for the time being, until a detailed comparison of the type species of both these genera is performed, *Paragendria* should be accepted as a valid genus, to which the new species is now assigned. Considering mainly the host types (catfishes), the species originally inadequately described as *Pingus aori* and *P. guptai* are transferred to this genus as *Paragendria aori* (Khan et Yaseen, 1969) comb. n. and *P. guptai* (Gupta et Masoodi, 2000) comb. n.; moreover, *P. aori* was described from the same host species as *P. macronis*, the type species of *Paragendria*, and may well be identical with the latter, whereas *P. guptai* possesses conspicuously large postanal papillae of the two last subventral pairs, a feature typical of *Paragendria* spp.

The genus *Paragendria* was created by Baylis (1939) for the species originally described by Stewart (1914) as *Heterakis macronis* from *Sperata aor* (Hamilton) (Bagridae, Siluriformes) in India. Subsequently, additional 22 nominal species have been assigned to it mainly from catfishes in India, Bangladesh and China: *P. callichroi* (Karve, 1941); *P. bagarii* (Karve, 1941); *P. baylisi* Klera, 1955; *P. vittatusi* (Agrawal, 1965); *P. buckleyi* (Agrawal, 1965); *P. wallagonia* (Sood, 1968); *P. aori* (Khan et Yaseen, 1969); *P. seenghalai* (Rai, 1969); *P. madhurai* (Sood, 1973); *P. lucknowia* Gupta et Verma, 1976; *P. gomtii* (Gupta et Bakshi, 1979); *P. vagrae* (Arya, 1979); *P. kanpurensis* (Tripathi, 1982); *P. indica* (Gupta et Srivastava, 1983); *P. tori* (Gupta et Srivastava, 1983); *P. tewarii* Gupta et Naqvi, 1985; *P. chauhani* (Misra et Tiwari, 1986); *P. ophiocephali* (Gupta et Jaiswal, 1986); *P. hanumanthai* (Gupta et Jaiswal, 1988) comb. n. (syn. *Metaquimperia hanumanthai* Gupta et Jaiswal, 1988); *P. mysti* (Yu et Wang, 1992); *P. guptai* (Gupta et Masoodi, 2000); and *P. vermae* (Gupta et Masoodi, 2000) comb. n. (syn. *Metaquimperia seenghali* Verma, 1971) (see Soota 1983, Gupta and Jaiswal 1988, Sood 1989, Gupta and Masoodi 2000, Arthur and Ahmed 2002, this study). However, as it has been mentioned above, almost all of them are poorly described and can be considered *species inquirendae*. Although a few species were synonymized with others (see Sood 1989), all this group of species remains confused, probably with frequent species and generic misidentifications. The only solution of this unsatisfactory situation will have to be a taxonomic revision mostly based on newly collected topotypic materials.

Because of unreliable data on the morphology of the above-mentioned species of *Paragendria*, it is highly problematic to compare the new species with those previously established. However, 16 species of *Paragendria* (*P. bagarii*, *P. buckleyi*, *P. callichroi*, *P. chauhani*, *P. gomtii*, *P. indica*, *P. kanpurensis*, *P. lucknowia*, *P. madhuai*, *P. ophiocephali*, *P. seenghalai*, *P. tori*, *P. vagrae*, *P. vermae*, *P. vittatusi*, *P. wallagonia*) are reported to possess three or six small teeth in the mouth, which are absent in *P. papuanensis*. A very characteristic feature of the new species is the presence of conspicuously large postanal papillae of the two last subventral pairs (Figs. 1F, H, I, 2B, E–G). Of the previously described species of *Paragendria*, such papillae were illustrated only by Stewart (1914) for *P. macronis* from *Sperata aor* in Lucknow, India and they are also visible on the drawings of *P. baylisi* and *P. vermae*, both from *Sperata seenghala* in Lucknow (Sood 1989), in *P. mysti* from *Mystus macropterus* (Bleeker) from China (Yu and Wang 1992), and in *P. guptai* from *Mystus tengara* (Hamilton) (type host) and *Rita rita* (Hamilton) from Kanpur, India (Gupta and Masoodi 2000). However, in contrast to the new species, *P. macronis* is characterized by the absence of a gubernaculum, a preequatorial vulva and by five pairs of preanal papillae, whereas *P. baylisi* and *P. vermae* differ in distinctly longer spicules (90–110 and 93–120 vs. 69–75 μm), less numerous (9 pairs) and differently arranged caudal papillae, and in considerably larger body measurements. *Paragendria mysti* differs in the absence of caudal alae in the male, longer spicules (88–98 μm) and larger body (male 5.8 mm, female 6.6–8.6 mm long), whereas *P. guptai* in having allegedly no cervical alae, two median preanal papillae, shorter spicules (58–64 μm), the excretory pore situated posterior to deirids, and larger body (male 5.7, female 6.5–8.3 mm). Consequently, the nematodes of the present material are considered to belong to a new species. *Paragendria papuanensis* is the first species described from fish of the family Apogonidae and the first representative of *Paragendria* from the Australian zoogeographical region. Fish species of the genus *Glossamia* occur in fresh waters of New Guinea and Australia (Nelson 2006, Froese and Pauly 2007). *Glossamia gjellerupi* is distributed in Irian Jaya, Indonesia and Papua New Guinea; it is common in major river systems and small independent coastal drainages between Lae and Mamberamo basin (Allen 1991).

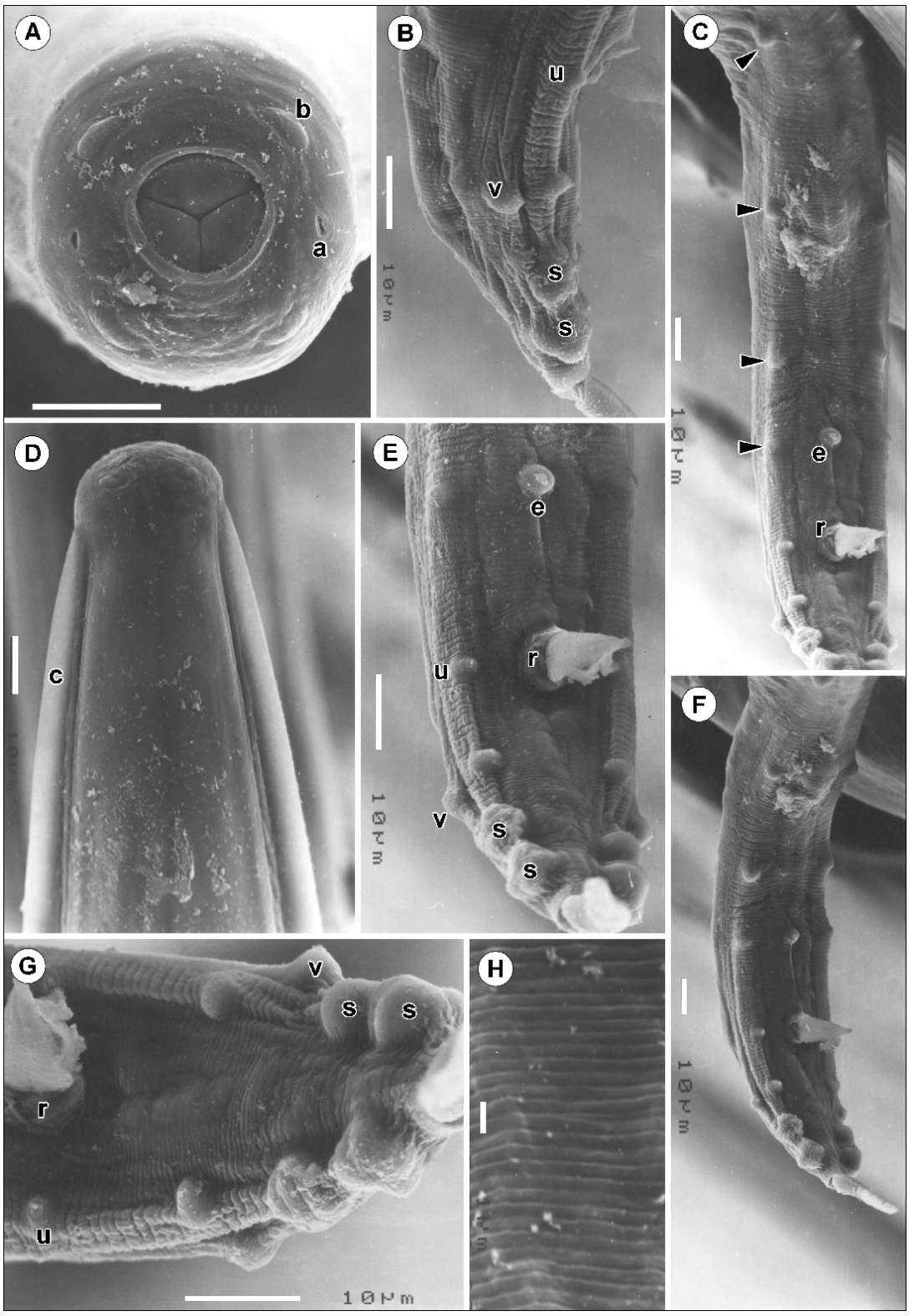


**Fig. 2.** *Paragendria papuanensis* sp. n., scanning electron micrographs. **A** – cephalic end, apical view; **B** – male tail, region of postanal papillae, lateral view; **C** – distribution of papillae in precloacal region, ventral view (arrowheads indicate subventral preanal papillae); **D** – anterior end of body, dorsoventral view; **E** – region of cloacal opening, ventral view; **F** – posterior end of male, subventral view; **G** – distribution of postanal papillae, ventral view; **H** – detail of transversal annulations on cuticle. *Abbreviations*: a – amphid; b – double cephalic papillae; c – cervical ala; e – unpaired median preanal papilla; r – cloacal opening; s – inflated subventral papilla of two last pairs; u – adanal subventral papilla; v – lateral postanal papilla. Scale bars: A–G = 10 $\mu$m; H = 1 $\mu$m.

Family: Rhabdochonidae Travassos, Artigas et Pereira, 1928

***Rhabdochona papuanensis*** sp. n. Figs. 3, 4

**Description.** Medium-sized nematodes with transversely striated cuticle. Oral aperture hexagonal, surrounded by four small submedian cephalic papillae of external circle and four minute submedian papillae of internal circle; pair of lateral amphids present. Prostom funnel-shaped; small basal prostomal teeth visible in lateral view (Fig. 1F), but absent in dorsoventral view (Fig. 1G). Anterior margin of prostom armed internally with 14 small, forwardly directed teeth (3 dorsal, 3 ventral and 4 on each side, latter forming pairs). Vestibule of medium length, curved. Deirids small, hammer-shaped (Figs. 1E, 2C) in lateral view, situated near posterior end of vestibule (Figs. 1A, 2A). Tail of both sexes conical, with sharply pointed tail tip.

**Male** (1 specimen, holotype; measurements of 1 young paratype specimen undergoing last moult in parentheses): Length of body 3.43 (3.24) mm, maximum width 95 (82). Prostom 24 (21) long and 15 (15) wide in lateral view (shed prostom of fourth-stage larva 15 long, 9 wide). Length of vestibule including prostom 93 (99). Muscular oesophagus 129 (174) long, maximum width 27 (24); glandular oesophagus 591 (960) long, maximum width 66 (63); length ratio of both parts 1:4.6 (1:5.5). Length of vestibule with prostom and entire oesophagus forms 24 (35) % of body length. Nerve ring encircling muscular oesophagus 120 (144) from anterior extremity; excretory pore at 177 (210). Preanal papillae: 9 pairs of subventral papillae and 1 pair of lateral papillae situated between second and third subventral pairs (counting from cloacal opening). Of 6 postanal pairs of papillae, second pair lateral, remaining subventral. Longitudinal ventral cuticular ridges (area rugosa) absent. Left spicule long, 651 (513); its shaft 225 (not observed), representing 35 (–) % of entire spicule length; distal tip of extruded spicule distinctly expanded. Right spicule 108 (99) long, with distinct dorsal barb at distal tip. Length ratio of spicules 1:6.0 (1:5.2). Tail 135 (177) long.

**Female** (2 gravid specimens with immature eggs; measurement of allotype in parentheses): Length of body 7.68–8.65 (8.65) mm, maximum width 122–150 (150). Prostom 30–36 (36) long and 24–27 (27) wide in lateral view. Length of vestibule including prostom 96–114 (114). Muscular oesophagus 201–225 (225) long, maximum width 24–33 (33); glandular oesophagus 1.56–1.60 (1.60) mm, maximum width 90–114 (114); length ratio of both parts 1:7.1–7.8 (1:7.1). Nerve ring at 105–123 (123) from anterior extremity; excretory pore not located. Vulva postequatorial, 4.37–4.60 (4.60) mm from anterior extremity (at 53–57 (53)% of body length). Vagina directed posteriorly from vulva. Eggs in uterus numerous, immature. Tail 192–204 (192) long.

Type host: New Guinea rainbowfish, *Melanotaenia affinis* (Weber) (Melanotaeniidae, Atheriniformes).

Site of infection: Intestine.

Type locality: Wannang Brook, a small tributary of the Sogeram River (Ramu River basin), Madang Province, northern Papua New Guinea (collected in 2005).

Prevalence and intensity: 2 fish infected/6 fish examined; intensity 1 and 3 specimens.

Deposition of types: Holotype, allotype and paratypes in the Helminthological Collection of the Institute of Parasitology, Biology Centre of the AS ČR in České Budějovice (Cat. No. N-891).

Etymology: The specific name of this species relates to the country of its origin, i.e., Papua New Guinea.

**Comments.** At present the nematode genus *Rhabdochona* Railliet, 1916 includes 91 valid species (Moravec, unpublished) parasitizing freshwater fishes in all zoogeographical regions, except for the Australian Region (Moravec 1972, 2007, Moravec and Muzzall 2007). Of them, only seven species (*R. acuminata* (Molin, 1860), *R. canadensis* Moravec et Arai, 1971, *R. decaturensis* Gustafson, 1949, *R. gnedini* Skryabin, 1948, *R. hakyi* Moravec et Sey, 1988, *R. hellichi* (Šrámek, 1901), *R. kidderi* Pearse, 1936) distributed in Eurasia and North and South America are characterized by a combination of the following features as *R. papuanensis*: the left spicule exceeding 0.5 mm, the presence of a dorsal barb on the right spicule, 14 anterior prostomal teeth, basal prostomal teeth, and a sharply pointed tail tip in the female (Moravec and Arai 1971, Moravec 1975, 1998, Moravec and Sey 1988b).

However, in addition to some other differences, all these species distinctly differ from *R. papuanensis* in the shape of deirids: whereas the deirids of *R. acuminata* and *R. decaturensis* are simple, rod-like (Moravec and Arai 1971, Moravec 1972, Cremonte et al. 2002) and those of *R. canadensis*, *R. gnedini*, *R. hakyi*, *R. hellichi* and *R. kidderi* are bifurcate (Moravec and Arai 1971, Moravec and Sey 1988b, Moravec 1994, 1998), the deirids of *R. papuanensis* are hammer-shaped in lateral view. In this feature, *R. papuanensis* also differs from all other species of *Rhabdochona* in which deirids have been described. The shape and size of deirids are considered to be one of the taxonomically most important morphological features in *Rhabdochona* spp. (Moravec 1972, 1975, Mejía-Madrid et al. 2007).

An important interspecific feature of *Rhabdochona* spp. is the presence or absence of superficial formations on the eggs, such as filaments or swellings; however, these are present only on the fully developed eggs containing larvae (Moravec 1972, 1975, 2007). Unfortunately, available specimens of *R. papuanensis* possess only immature eggs, so that this important character remains unknown in this species. Consequently, a unique feature by which *R. papuanensis* can be distinguished from all congeners is its hammer-shaped

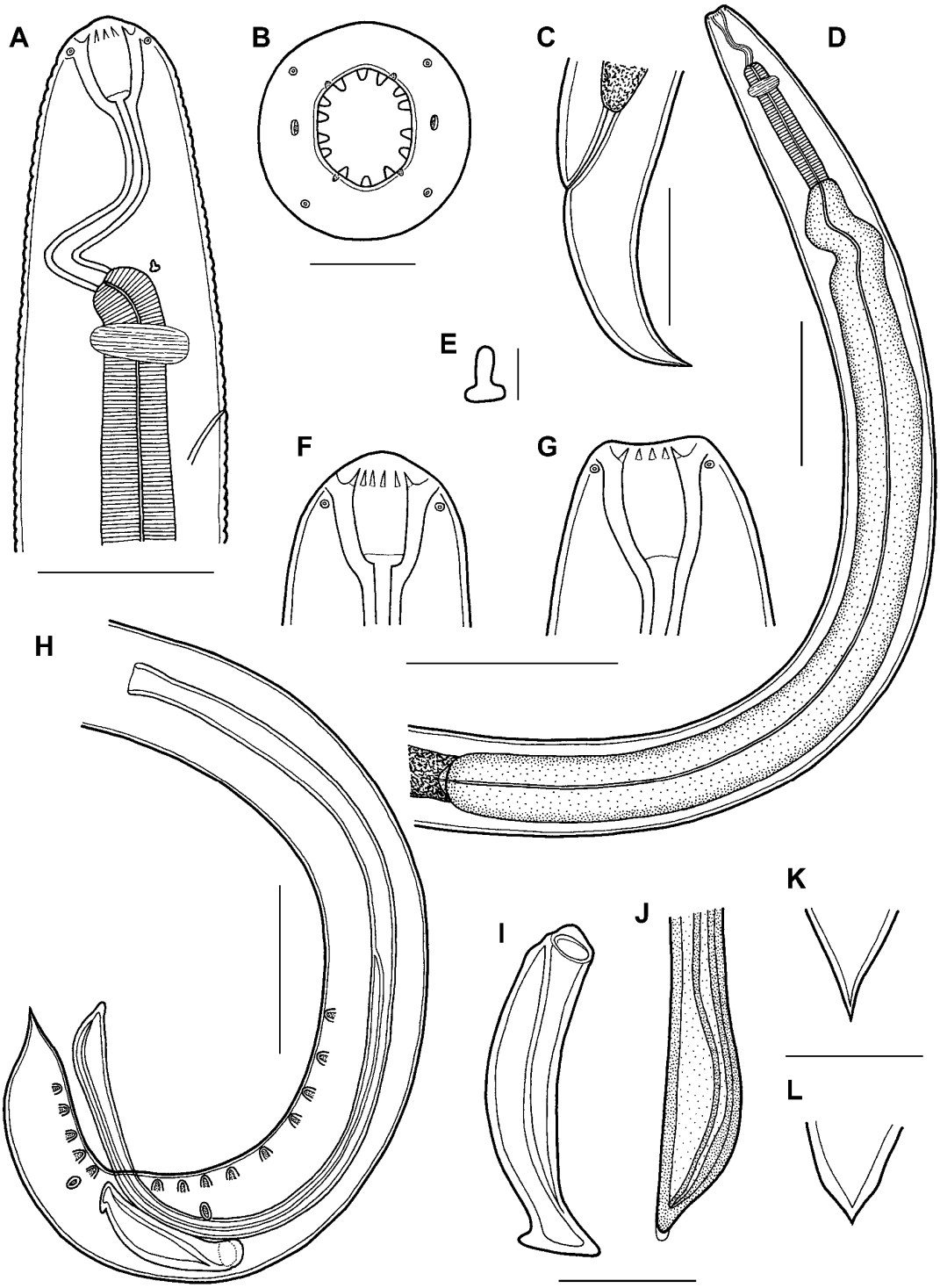


**Fig. 3.** *Rhabdochona papuanensis* sp. n. **A** – anterior end of female, lateral view; **B** – cephalic end, apical view; **C** – tail of female, lateral view; **D** – anterior part of body, dorsoventral view; **E** – deirid; **F, G** – prostom, lateral and dorsoventral views, respectively; **H** – posterior end of male, lateral view; **I** – right (small) spicule; **J** – distal end of left (large) spicule, lateral view; **K, L** – tail tip of male and female, respectively. Scale bars: A, F, G = 50 $\mu$m; B = 10 $\mu$m; C, H = 100 $\mu$m; D = 200 $\mu$m; E = 2 $\mu$m; I–L = 30 $\mu$m.

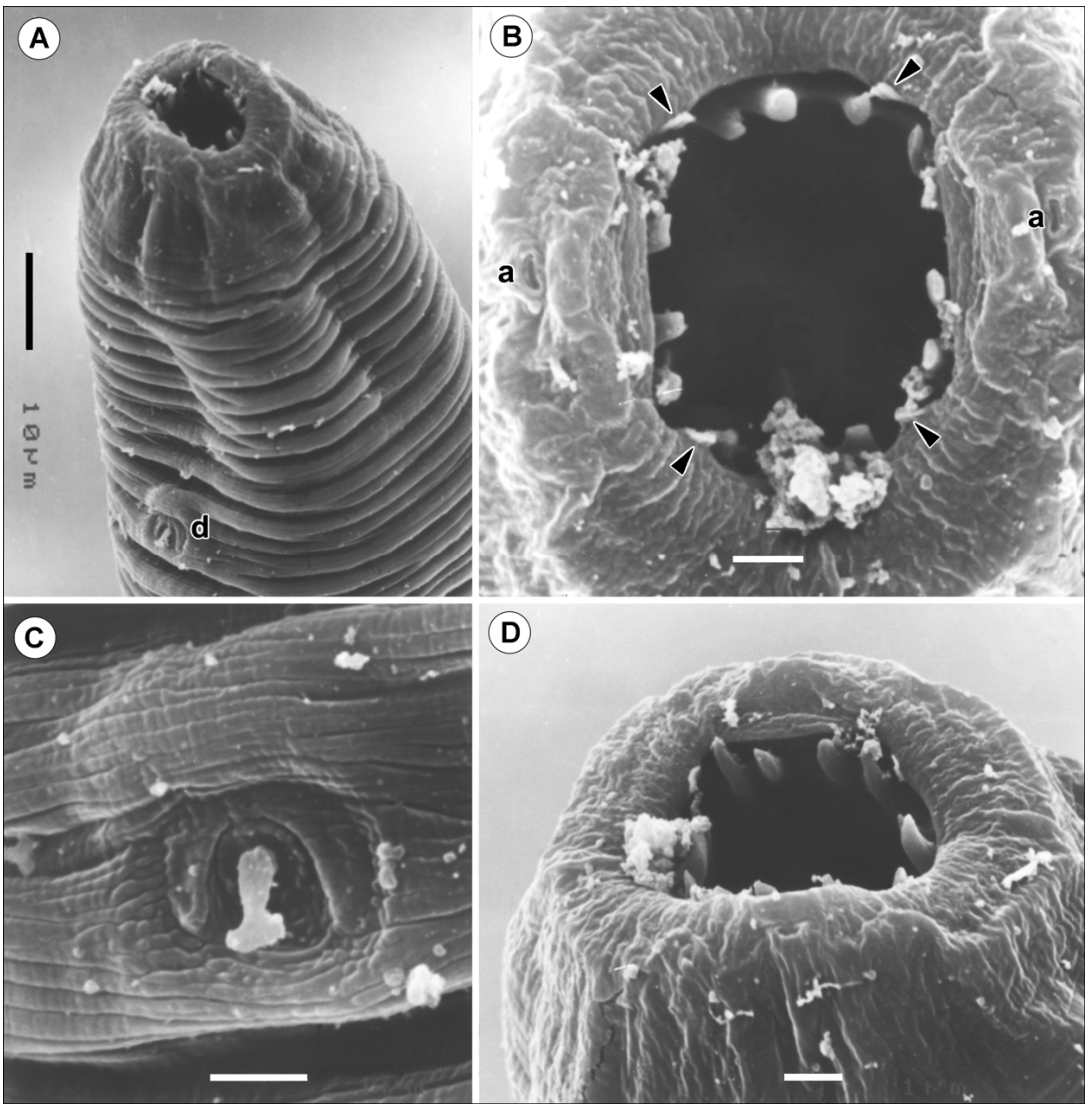


**Fig. 4.** *Rhabdochona papuanensis* sp. n., scanning electron micrographs of female. **A** – anterior end of body, sublateral view; **B** – cephalic end, apical view (arrowheads indicate cephalic papillae of internal circle); **C** – deirid; **D** – cephalic end, lateral view. *Abbreviations*: a – amphid; d – deirid. Scale bars: B–D = 2 μm.

deirids; from individual morphologically similar species it also differs in some other characters, such as the shape of the distal end of the left spicule, the length of spicules, the number and arrangement of caudal papillae, etc.

In spite of their frequent occurrence in facultative (paratenic, paradefinitive or postcyclic) hosts, individual species of *Rhabdochona* seem to be more host specific than generally believed and most species adapted themselves to fish hosts belonging to the same family, subfamily or genus (Moravec 1972, 1975, 1994, Mejía-Madrid et al. 2007). *Rhabdochona papuanensis* is the first known species of this genus parasitizing fishes of the order Atheriniformes. Fish species of the genus *Melanotaenia* Gill are distributed in New Guinea and Australia (Nelson 2006). It is the first species of *Rhabdochona* reported from the Australian Region. Previously three species of *Rhabdochona*, *R. jaenschi* Johnston et Mawson, 1940, *R. coelorhynchi* Johnston et Mawson, 1945 and *R. beatriceinsleyae* Holloway et Klewer, 1969, were reported from marine fishes from Australia and Antarctica, but these were subsequently transferred to other genera (see Moravec 1975).

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