Euparadistomum cercopithei sp. n. (Dicrocoeliidae), a Digenetic Trematode from the Talapoin Monkey from Rio Muni

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The specimens of this report were collected by Robert W. Cooper, D.V.M., Director, NIH Primate Colony, Institute of Comparative Biology, Zoological Society of San Diego. They were brought to the author's attention by G. E. Cosgrove, M.D., Biology Division, Oak Ridge National Laboratory. Dr. Cooper (personal communication) noted that "The talapoin monkey from which the five trematodes were collected was received in our colony from Bata, Rio Muni (West Africa) on 26 April 1968. This animal was an adult female. . . . Talapoin monkeys are extremely common in Rio Muni and it is unlikely that the specimen was captured more than 25 miles from Bata. . . . In a total of 20 examinations performed on talapoins in Rio Muni, in Cameroun, and here in San Diego, I have found this particular trematode on only one other occasion. In this case a single immature specimen was recovered from the gall bladder of a freshly captured advanced pregnant female which was purchased in Bata from a native on 3 January 1968." Specimens were fixed, without pressure, in Roundabush solution, stained in Semichon's acetocarmine or Mayer's carmalum, and mounted in permount. Measurements are in microns.

Euparadistomum cercopithei sp. n. (Figs. 1–4)

HOST: Cercopithecus (Miopithecus) talapoin Schreber (Cercopithecidae).

HABITAT: Gall bladder.

LOCALITY: Vicinity of Bata, Rio Muni; Equatorial Guinea.

SPECIMENS: USNM Helm. Coll. No. 71288 (holotype); No. 71289 (paratypes).

DIAGNOSIS (based on five mature specimens from one host): Body flat, slightly longer than wide, anterior extremity round, posterior nearly truncate, tending toward trigonal shape, 3,180–4,385 by 2,630–3,920. Tegument thick, annulated; papillae and spines absent. Forebody 1,300–1,815 long, hindbody 997–1,450 long; forebody–hindbody length ratio 1:0.70–0.87; preoral space 60–115 long. Suckers transversely elongate; oral sucker subterminal ventral, 675–835 by 760–974; acetabulum 860–1,166 by 997–1,304, center at level of anterior 52–57 per cent of body length; sucker length ratio 1:1.22–1.39, sucker width ratio 1:1.29–1.43. Prepharynx absent; pharynx usually longitudinally elongate, 205–290 by 200–230, entirely dorsal to or considerably overlapping oral sucker; esophagus 70–450 long; cecal bifurcation 335–510 preacetabular; ceca wide, terminating 220–560 from posterior extremity.

Testes two, situated symmetrically at anterolateral margins of acetabulum in three specimens, oblique with left testis anteromedian to acetabulum in two others, usually overlapping acetabulum, margins smooth to slightly lobed, usually transversely elongate but sometimes longitudinally elongate, right testis 225–335 by 225–360; left testis 245–300 by 260–365. Vasa efferentia uniting at cirrus sac. Latter median to submedian, straight to curving slightly, 250–440 by 125–160, lying 75–160 preacetabular, containing saccular, undulating seminal vesicle, short pars prostatica surrounded by prostate cells, and muscular cirrus. Genital atrium round, wide, shallow. Genital pore median, bifurcal to postbifurcal, situated 205–520 postpharyngeal, 205–475 preacetabular.

Ovary smooth to slightly lobed, median to submedian (left), overlapping posterior part of acetabulum, longitudinally or transversely elongate, 265–375 by 290–335. Mehlis' gland well developed, very compact, round to longitudinally elongate, situated dextral to ovary in three specimens, sinistral in two others, usually overlapping ovary dorsally, 140–205 by 120–185. Seminal receptacle situated as for Mehlis' gland, large, saccular, longitudinally

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Abbreviations: C, cirrus; CS, cirrus sac; GA, genital atrium; GC, gland cells; GP, genital pore; M, metraterm; PC, prostate cells; PP, pars prostatica; SV, seminal vesicle; U, uterus; VE, vas efferens.
elongate, 300-385 by 195-220. Laurer’s canal extending to dorsal surface near seminal receptacle. Vitelline follicles in lateral extracecal fields, extending from pretesticular, testicular or acetabular level to level anterior or posterior to or at cecal ends, anterior and/or posterior limits of fields in individual specimen may be subequal, one or both fields may be interrupted at ovarian level or both may be uninterrupted. Uterine coils extending to posterior extremity, overlapping vitellaria ventrally, anteriorly extending to sides of oral sucker and lateral body margins; coiling essentially as schematically presented by Buckley and Yeh (1958) in figure 3 of their new species Euparadistomum heischii. Metraterm shorter than cirrus sac, muscular, anteriormost extent anterior to cirrus sac and genital pore, surrounded by gland cells. Eggs numerous, operculate; shells of younger eggs yellow in color, becoming yellow-brown, and finally brown as they progress from proximal to distal uterine coils; 20 older eggs measuring 34-41 by 22-26.

Excretory bladder Y-shaped, stem post-ovarian, arms extending to ovarian level; pore terminal.

Discussion

Species of Euparadistomum Tubangui, 1931, have been reported from lizards, birds, and mammals from the Philippine Islands, North Borneo, British Solomon Islands, Malaya, Burma, India, Madagascar, Belgian Congo, Kenya, and Brazil. African species are: E. varani var. madagascariensis Capron, Deblock and Brygoo, 1961, from chamaeleonid lizards from Madagascar; E. pipistrelli (Sandground, 1937) Travassos, 1944, from a vespertilionid bat from the Belgian Congo; E. heischii Buckley and Yeh, 1958, from a domestic cat (Felidae) from Kenya. Species from mammalian hosts, in addition to the latter two listed above, are: E. cercivoulae Gogate, 1939, from a vespertilionid bat from Burma; E. paraense (Jansen, 1941) Travassos, 1944, from a didelphid marsupial from Brazil; E. buckleyi S. N. Singh, 1958, from a fox (Canidae) from India. E. cercopithecii sp. n. appears closest to E. paraense, E. buckleyi, and E. francolini R. Gupta, 1959 (from a phasianid bird from India). It differs from them in body shape, and in possessing an annulated tegument. It differs further from E. paraense in lacking tegumental papillae, and in having smaller eggs and sucker ratios; from E. buckleyi in possessing a well developed Mehlis’ gland; and from E. francolini in having smaller eggs.

The differences cited above for declaring E. cercopithecii a new species appear to be relatively small in view of experimental studies on host influence d intraspecific morphological variations reported for Opisthio glype ranae (Frölich, 1791) Looss, 1907 (Plagiorchiidae) by Grabda-Kazubsk a (1967), and for Telorchis bonnerensis Waitz, 1960 (Telorchiidae) by Waterton (1967). However, experimental data on morphological variability and on life cycles are not known for any species of Euparadistomum. Additionally, E. cercopithecii is from Africa, whereas the most closely related species are either from Brazil or India. Therefore, the author feels that the new species designation for the present specimens is justified.

Literature Cited

