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A NEW SPECIES OF *CUBARIS* BRANDT (CRUSTACEA : ISOPODA : ARMADILLIDAE) FROM INDIA

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ABSTRACT

Cubaris pataliputraensis **sp. nov. (Crustacea : Isopoda : Armadillidae) is described from Patna, Bihar, India.**

INTRODUCTION

The genus *Cubaris* Brandt (1833) is known only by 17 species from India. The work on Indian Armadillidae includes those of Arcangeli (1934), Chilton (1916, 1924), Chopra (1924a, b), Collinge (1914a,b, 1915a, b, 1916a,b) Ramakrishna (1971) and Verhoeff (1936). The Indian authors have relied more on the structure of head appendages while Budde-lund (1904), Chilton (1915), Collinge (1917) and van Name (1936, 1940, 1942) are depending more on the external outline and tuberculations of the body in recognising species of the genus, particularly in tuberculate species. To avoid confusion both the aspects have been dealt with in the present species.

Cubaris pataliputraensis sp. nov. (Figs. 1-2)

Body (4.5 mm. long) broadly oblong in dorsal view, parallelsided, broadly rounded infront and behind and highly arched. The epimeral ends of both the thoracic and abdominal segments bend or flare strongly outward. The front outline of the head is slightly convex. The upper border of the epistome forms a wide, rather thin, horizontally projecting border. Number of ocelli in eyes variable, 16 in holotype but upto 20 in some other specimens.

The lateral margin of thoracic segment I is curved outward though not very abruptly, forming a fairly wide horizontally extending border. Anterior and posterior angles rounded, dorsal surface of epimera concave (excavate). Seen from below, the first thoracic epimera exhibit an oblique coxopodite ridge (Sulcus) which is produced posteriorly into the inner plate (Fig. 2D) of a notch for receiving the second segment when the body is rolled up. The cleft at the posterior angle of segment I is small but is continued forward (Fig. 2D) as a diminishing groove for half the length or somewhat more of the border of the segment. The thoracic segment II bears a well developed posteriorly directed (Fig. 2E), tooth like coxopodite process.

Telson (Fig. 1) is much wider than long and has the lower or terminal part strongly bent out horizontally ; upper part, nevertheless appears to extend the length of the segment in its width. The middle part of

the telson is constricted in width and bears a pair of tubercles. The basal joints of uropods are short and wide and do not project beyond the telson. The internal branches are very short, the external branch is minute.

The whole body surface including tubercles is sculptured with scales as shown in figure 2C.

Tuberculation : The dorsal surface (Fig. 1) is ornamented with large regularly arranged tubercles. These are conical or rectangular with the tips rounded off.

The head has normally three transverse rows of tubercles, the posterior row having six which are larger than those of anterior ones. The middle row has two and anterior row has four tubercles. Tubercles of anterior and middle rows are conical. In a few specimens other than holotype there is a pair of tubercles further anterior on the head.

On the segments of thorax (except the first

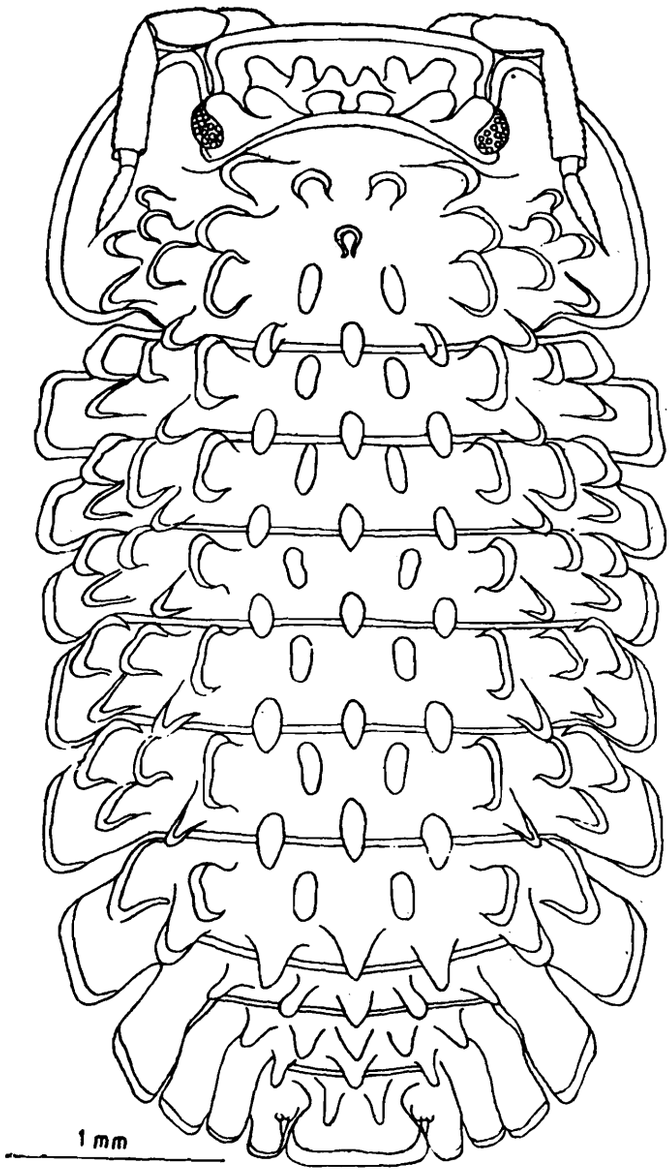

Fig. 1. *Cubaris pataliputraensis* sp. nov. (Dorsal view of the type specimen.

on which there are four rows) they form two rows ; an anterior row of eight and a posterior row, very close to the posterior margin of each segment, of seven (6 and 5 on segment VII). The lateral most tubercles of anterior row on the segments of thorax are

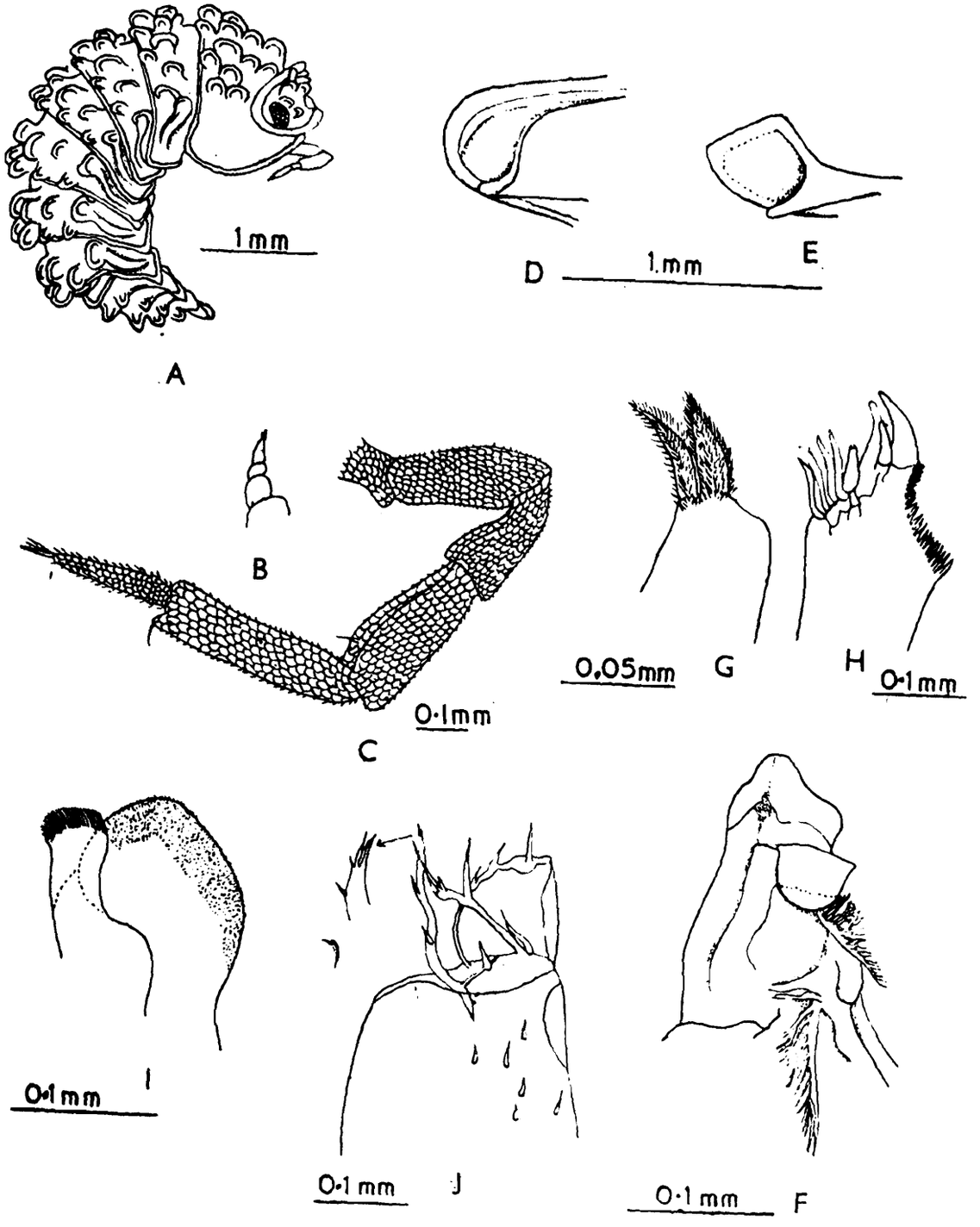

Fig. 2. (A-J) *Cubaris palaliputraensis* sp. nov., A-Lateral view of the animal showing ridges, B—Antennule, C—Antenna showing arrangement of scales, D—E—Ventral view of thoracic segment I and II showing ridge and groove, F—Terminal portion of right Mandible, G—H—Terminal part of Maxilla I, Inner and outer lobe, I—Terminal portion of Maxilla II, J—Terminal portion of Maxilliped.

the largest. From this large tubercle a fairly well defined curved ridge or keel (Fig. 2A) extends down towards the lateral end of the segment.

Abdominal segments are smooth except for a horizontal row of five conical tubercles on each segments III and IV and three tubercles on segment V and a pair on the telson. The tubercles are more pronounced with the age.

Head appendages : The antennule (Fig. 2B) is three jointed with distal joint attenuated and provided with a number of fine setae.

Antenna (Fig. 2C) short, sparsely setaceous, joints three to five slightly grooved on their outerside, flagellum two-jointed, the distal being the longer with stout terminal style and two fine setae. The flagellum is narrow, thickly setose and is equal to the 4th peduncular segment. Distal joint of flagellum is five times as long as the proximal one. There is a long seta (Fig. 2C) on the outer margin of the distal end of the 4th and another on inner margin of the distal end of 5th segment.

Mandible (Fig. 2F) is provided on its outer cutting edge with trifid blunt tooth and another flattened tooth on its inner side with two tufts of setae below it.

First maxilla (Fig. 2G, H) has outer lobe (Fig. 2H) terminating in four stout incurved and five small inner spines. It has short simple hair-like setae on its outer margin. The inner lobe (Fig. 2G) is short nearly rounded distally with two setaceous spines on a wide projection.

Second maxilla (Fig. 2 I) is thin and plate-like, terminating distally in a bilobed manner ; the outer lobe is fringed with setae and those on the inner, form a brush-like lobe.

Maxilliped (Fig. 2J) with the outer palp terminating in a large trispinous process with another three small spines on its outer margin which is not straight, and two large and one small on its inner margin. Inner palp broad with two stout blunt teeth like spines having broad bases and one large pointed spine near the middle of its apex. A large pointed spine at the base of the outer palp at its inner margin, and a smaller one about its middle. Ventral surface of the maxilliped behind the palp provided with a number of short spines.

Colour : Reddish brown with white spots and whitish narrow band along mid dorsal line. The Uropods are light yellow.

Type Specimens :

Holotype : ♂ (Z. S. I. / G. P. R. S. Reg. No. A888), INDIA : BIHAR : Patna, Rajendra Nagar, Under stones, 11. VII. 1976 (Coll. *Lakshman Ram*).

Paratypes : 1 ♀ (Z. S. I. / G. P. R. S., Reg. No. A889), data same as for holotype. 3 ♀♀, 3 ♂♂ same locality as for holotype, 4. II. 1977 (Coll. *Lakshman Ram*).

Remarks : Cubaris pataliputraensis sp. n. is closely allied to *C. tuberosus* Budde-lund (1904) but can easily be distinguished from it by the presence of 3 tubercles on abdominal segment V and by the presence of greater number of ocelli. It differs from *C. mineri* van Name (1936) and *C. phylax* van Name (1936) in the number of tubercles on body and in the shape of the coxal ridge under the thoracic segment I.

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REFERENCES

ARCANGELI, A. 1934. Isopodi terrestri raccolti nel Caracoram dalla spedizione di S. A. R. il Duca di Spoleto. *Ann. R. Ist. Agrario Milano*, 1 : 1-23.

BUDDE LUND, G. 1904 A revision of Crustacea "Isopoda Terrestria" with additions and illustrations 3. Armadillo. *Entom. Meddel.* (2) 1 : 33-144.

CHILTON, C. 1915. Some terrestrial Isopoda from New Zealand and Tasmania with description of a new genus. *J. Linn. Soc. (Zool.)*, 32 : 417 425.

CHILTON, C. 1916. Some terrestrial Isopoda from the shore of Chilka lake. *Mem. Indian Mus.*, 5 (5) : 459-480.

CHILTON, C. 1917. A new tuberculate terrestrial Isopoda from New Zealand. *Ann. Mag. nat. Hist.*, (Ser. 8) 19 : 327-329.

CHILTON, C. 1924. Tanaidacea and Isopoda. *Mem. Indian Mus.*, 5 (12) : 875-896.

CHOPRA, B. N. 1924a. Isopoda of the Siju Cave, Garo hills, Assam. *Rec. Indian Mus.* 26 (1) : 49-59.

CHOPRA, B. N. 1924b. The fauna of an island in the Chilka lake. On two myrmecophilous isopods from Barkuda. *Rec. Indian Mus.*, 26 (5) : 523-528.

COLLINGE, W. E. 1914a. Terrestrial Isopoda. *Rec. Indian Mus.*, 8 (6) : 465-469.

COLLINGE, W. E. 1914b. On some new terrestrial isopods from the Andaman Islands and Southern India. *Rec. Indian Mus.*, 10 (3) : 207-210.

COLLINGE, W. E. 1915a. Contribution to a knowledge of the terrestrial Isopoda of India. Part I. On a collection from the Madras Province and Southern India. *Rec. Indian Mus.*, 11 (2) : 143-151.

COLLINGE, W. E. 1915b. Zoological Results of the Abor Expedition XLIV. Terrestrial Isopoda II. *Rec. Indian Mus.*, 8 (9) : 543-546.

COLLINGE, W. E. 1916a. Contribution to a knowledge of the terrestrial Isopoda of India. Part II. Some new species of *Paraperiscyphis*, *Cubaris*, etc. *Rec. Indian Mus.*, 12 (3) : 115-128.

RAMAKRISHNA, G. 1971. Studies on the Indian Isopods. Pt. 2. Notes on the Oniscid collection from the Kameng division NEFA. *Rec. zool. Surv. India*, 63 (1-4) [1965] : 181-184.

VAN NAME, W. G. 1936. The American Land and Freshwater Isopod Crustacea. *Bull. Amer. Mus. nat. Hist.*, 71 : 1-535.

VAN NAME, W. G. 1940. A supplement to the American Isopod Crustacea. *Bull. Amer. Mus. nat. Hist* 77 : 10-142.

VAN NAME, W. G. 1942. A supplement to the American Isopod Crustacea. *Bull. Amer. Mus. Hist.*, 80 : 299-329.

VERHOEFF, K. W. 1936. Ueber einige Isopoda aus Sud-Indian. *Rec. Indian Mus.*, 38 (2) : 97-102.