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## A NEW CENTIPEDE FROM OKINAWA

(Chilopoda: Oryidae)

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We know little about the centipedes of the Pacific Islands, of southeast Asia and of Australia. Specimens and records are scarce and what little is known has been digested and summarized only once in a pioneer attempt at a broad synthesis, which is now hopelessly out of date (Attems, 1914, Arch. Naturg. 80 A(4): 1-398). Still, the evidence points to a populous Oriental and Australasian centipede fauna in many ways richly diverse, with the Lithobiomorpha alone poorly represented.

The new Okinawa geophilomorph described here is a member of the family Oryidae and represents a new genus. This genus is believed to occur in Okinawa, Singapore, southern coastal India and (perhaps through introduction) on a small island off the west coast of Africa.

The Oryidae, largely limited to the American tropics and Africa, are most uncommon in Asia, or at least in Asian collections. As late as 1929 Attems was unable to list more than two oryids from Asia, *Orphnaeus brevilabiatus* (Newport), a prevalent pantropical species, and *Pentorya indica* Silvestri from southern India. In the ensuing years a few additional forms have been discovered.

In the following species descriptions, two new terms are used. Their definitions are given here. *Paraclypeal sutures* define the lateral limits of the clypeus proper. Each is a suture or cleft arising in the antennal socket, passing posteriorly on the ventral surface of the head capsule, and terminating usually at or near the lateral end of the labral side-piece. *Plagula*, -ae, the so-called clypeal or prelabral consolidated area (in *Mecistocephalus* the postclypeus or posterior clypeus). So far as known they are always paired and bilateral; each pair usually occupies a position on the posterior clypeus just in front of the labrum.

### *Nycternyssa* Crabill, new genus

Tarsus of ultimate legs bipartite; stigmopleurites discrete; second maxillary claw pectinate; single series of paratergites. Female gonopod simple, entirely undivided. Body in gen-

eral extremely sparsely setose, setae minute; antenna distally barely attenuate, proximally barely flattened; first maxillary telopodite bipartite; mandibular lamellae closely applied to and bent around distal mandibular border; ultimate coxopleura flattened, not extensive, leaving considerable part of membranous pleuron fully exposed (preceding characters of *N. stheno* probably of generic significance.)

Type species: *Nycternyssa stheno* Crabill, new species, by present designation.

The genera *Aspidopleres*, *Ctenorya*, *Orphnaeus*, and *Nycternyssa*, of the subfamily Oryinae, are related but the latter two may be separated by the possession of a single series of paratergites, while the former two have multiple ones. *Orphnaeus* differs from *Nycternyssa* in that the female gonopod is divided into two distinct articles while it is simple and undivided in *Nycternyssa*.

Certain species of *Orphnaeus* described by Verhoeff appear to belong to *Nycternyssa*, but the assignments cannot be made with certainty because the original descriptions fail to mention important features. However, the following species are tentatively assigned to *Nycternyssa*: *conspersus* Verhoeff, 1937 (Madras, India); *eidmanni* Verhoeff, 1943 (Fernando Po I.); *dekanius* Verhoeff, 1938 (Trivandrum, southeast India); and *singaporiensis* Verhoeff, 1937 (Singapore).

***Nycternyssa stheno* Crabill, n. sp.\*** Figs. 1-3.

Total length: 60 mm.

*Antenna*: 2 mm, orange yellow. All articles sparsely clothed with minute setae; vestiture of distal 7-8 articles slightly denser than that of more proximal. Articles of proximal 1/3 of antenna very slightly flattened, remaining round in cross-section; as a whole distally only very slightly attenuate (ratios of articles 2: 4: 6: 8: 10: 12: 14 are 15: 15: 15: 14: 13: 12: 11). *Cephalic plate*: 0.9 mm long, 2.9 mm at greatest width. Orange yellow. Roughly cordiform, frontal margin forming obtuse angle, antennae well-separated and arising immediately on each side of rostrum; sides conspicuously rounded; posterior margin essentially straight. Frontal suture absent. Surface deeply finely reticulate; setae extremely sparse and tiny. *Clypeus*: Paraclypeal sutures appearing as deep clefts extending completely to antennal sockets. Clypeal surface deeply, finely reticulate; without clypeal area(s); clypeal plagulae minute, restricted to region immediately anterior and adjacent to each end of labrum. Setae very fine and short, numerous, extending fully across anterior 1/3 of clypeus in a weakly arching band; remainder of clypeus glabrous except for one longer central prelabral seta. *Mandible* with 3 pectinate lamellae (arising from well-sclerotized side) and irregular multiple series of 6-8 small hyaline projections (tubercles or teeth?) arising from weakly-sclerotized side. Each successive pectinate lamella very narrowly separated from body of mandible, strongly and closely curved around its distal margin so mandible appears almost undivided or simple and in fact geophiliform. Pectinate lamella 1 with 21 hyaline teeth. *First maxilla* (fig. 2): Coxosternum thin, translucent, almost membranous, medially undivided, distinct reticulation uniform, with pair of substantial lappets. Telopodites indistinctly bipartite, each with a distinct lappet. *Second maxilla* (fig. 2): Coxosternum broadly continuous medially, without trace of division; more or less

\* *Stheno* was one of the Gorgons, three mythological sisters of such frightful aspect that all who beheld them turned to stone, and is the basis of the name *stheno*; gender feminine.

coarsely uniformly reticulate; with comparatively few minute setae. Telopodite relatively short; claw roughly spoon-shaped and apically pointed, its ventral edge with 4-5 minute well-sclerotized, deeply pigmented, distolaterally directed teeth, dorsal edge with about 4 longer, narrowly triangular strictly hyaline delicate spines. *Prehensor* (fig. 1): Concolorous with cephalic plate and prosternum. Short and robust, greatest width of article 1 (trochanteroprefemur) exceeding its outside length; setae extremely sparse and small. Ungula robust, heavy; its posterior edge essentially smooth; poison calyx in basal tarsungula.

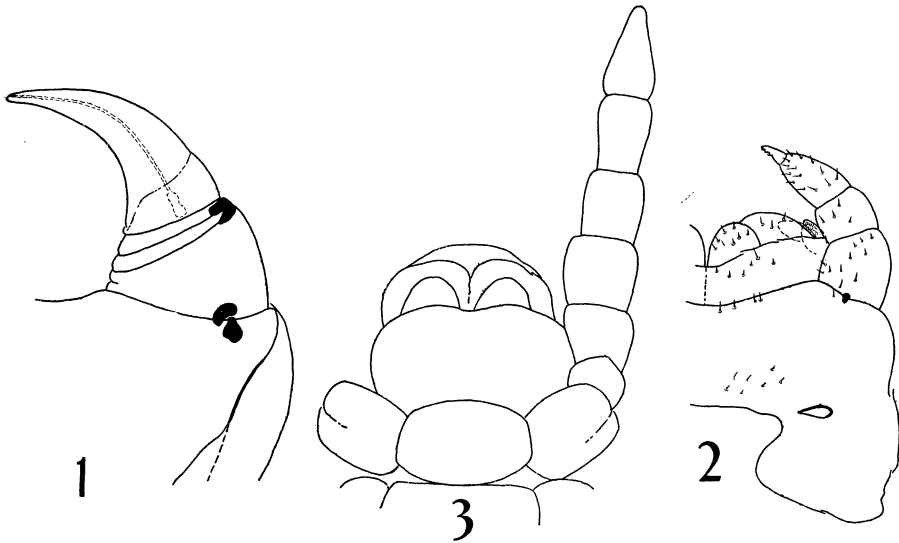


Fig. 1-3. *Nycternyssa stheno*, holotype. 1. Prehensor and prosternum (left, ventral). Poison canal and calyx shown in dashes. Setae omitted. 2. First and second maxillae (left, ventral). Lappets shown in dashes. All setae shown. 3. Ultimate pedal and succeeding segments (Ventral). Left leg shown; all setae omitted.

*Prosternum* (fig. 1) without exposed chitin lines; without denticles or other sclerotized apurtenances. Vestiture extremely sparse, setae minute.

*Sternites* (excluding ultimate pedal) without carpophagus-structures (i. e. paxilli and sacculi), virtually glabrous, whitish in color, without colored markings. Sternites 2 through penultimate pedal each with 2 anterior and 2 posterior pore-fields, right and left partners of each pair widely separated, on each side anterior only narrowly separated from posterior pore-field; posteriorly on successive sternites, fields becoming smaller, especially anterior fields; all 4 fields present and conspicuous on penultimate pedal sternite; sternite 1 with 2 small weak bilateral fields. Sternites 2 through penultimate pedal each with central elliptical depression, becoming wider and shallower on successive posterior sternites. *Pleural region* (excluding ultimate pedal): Stigmopleurites completely separated from prostigmopleurites. Each eupleurium from segments 8-10 posteriorly with 1 conspicuous paratergite, paratergites actually first appearing on segments 2 or 3 where they are minute and largely concealed. Pleurites without colored markings; with very few minute setae. *Legs*: 79 pairs. Excluding ultimates, clear white except for tarsi which are yellowish distally. Setae virtually

absent except on tarsi where they are sparse and minute. *Tergites*: Uniformly orange yellow, without subsurface dark flecks; last 8 to 12 each with indistinct, subsurface, bigeminate, blackish band. *Lustre*: Dull, deeply finely reticulate. *Setae* rare, microscopic. Typical sulci absent, probably represented by barely discernible, extremely shallow, broad, vague and amorphous depressions paramedial in position. Approximately lateral 1/3 of each plate slightly inflated, appearing as very low and broad mound. *Ultimate pedal and succeeding segments* (fig. 3): Interior and posterior margins of sternite rounded, sides very slightly convergent; surface rather coarsely reticulate; setae few, small. Each coxopleuron rather flat, not inflated, without pores; not extending dorsally to tergite and thereby leaving considerable portion of membranous pleuron exposed. Posterior margin of tergite rounded. Leg with 7 articles including 2-part tarsus; pretarsus absent. Setae sparse, very small. Genital sternite broad, arched, posteromedially distinctly indented; exposed portions of gonopods not overlapping, not contiguous, each of these single, undivided; their exposed bases not extending laterally as far as posterolateral corner of genital sternite. Terminal pores absent.

Holotype, ♀ (USNM No. 2455), Kanna, Okinawa, 22 July 1945, A.B. Hardcastle.

*N. stheno* closely resembles *conspersus*, but differs in having large distinct paratergites beginning on segments 8-10, in lacking deep paramedial tergital sulci, in not having the sternites finely punctate, and the dorsum not flecked with dark markings. In *conspersus* the large paratergites begin on segment 24, there are deep paramedial tergital sulci, the sternites are finely punctate, and the dorsum is flecked with dark markings.

#### KEY TO SPECIES OF NYCTERNYSSA

1. Female gonopods basally not overlapping medially, not extending laterally as far as posterolateral corner of sternite; anterior pore-fields present on penultimate pedal sternite ..... 2
  - Female gonopods basally slightly overlapping medially, basally extending laterally as far as posterolateral corners of sternite; anterior pore-field present or absent on penultimate pedal sternite..... 3
- 2 (1). Tergites with 2 deep paramedial sulci; dorsum with 2 paramedial greenish stripes and with dark flecks laterally; paratergites not beginning anterior to segment 24 ..... **conspersus**

Tergites without distinct sulci, instead with shallow, vague paramedial depressions subrotund in shape; dorsum with distinct bigeminate band, posterior 12 or so segments each with vague dilute dark streak; completely without dark flecks of color; paratergites beginning on segments 2 or 3, becoming conspicuous by segments 8-10 ..... **stheno**
- 3 (1). Ultimate pedal and genital sternites of about equal width, former about twice as broad as long, its posterior margin rounded and more than  $\frac{1}{2}$  as wide as anterior margin, rounded sides not strongly convergent; 81 pairs of legs...**eidmanni**

Genital sternite somewhat broader than ultimate pedal sternite; ultimate pedal sternite slightly longer than broad and posteriorly truncate, its posterior margin only  $\frac{2}{5}$  as wide as its anterior margin, sides nearly straight and strongly convergent; 77 pairs of legs.....**dekanius**...4
- 4 (3). Penultimate pedal sternite without anterior pore-fields..... **d. dekanius**

Penultimate pedal sternite with small anterior pore-fields ..... **d. singaporiensis**