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Caption: Stripe-backed Weasel *Mustela strigifrons*. Medium—digital, Software—procreate, Device—iPad + Apple pencil © Dhanush Shetty.



## First report of *Scipinia horrida* (Stål) (Heteroptera: Reduviidae) from Assam, with comments on related genus *Irantha* Stål

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**Abstract:** Presence of reduviid bugs *Scipinia horrida* (Stål, 1861) and *Irantha* sp., belonging to the family Reduviidae and subfamily Harpactorinae, is reported here for the first time from Guwahati, Assam. We provide images and comparative comments on these two bugs.

**Keywords:** Assassin bugs, Harpactorinae, Iranthini.

Four specimens of small reduviid bugs collected in Guwahati (Assam, India) were identified as *Scipinia horrida* (Stål, 1859) (three specimens) and *Irantha* sp. (one specimen) based on keys in Distant (1904). Distant (1904) had placed these two genera under 'division' Polididusaria (= Polididini Distant, 1904) stating that 'In this division the anterior femora are granulate, generally nodose or nodulose, and always spinous'. The genus *Irantha* Stål, 1861 was separated from closely related genus *Scipinia* Stål, 1861 on the basis of the length of

the first two visible segments of labium. Thus the first joint of labium is longer than second in *Irantha* while the first and second joints are subequal in *Scipinia*.

Maldonado-Capriles (1990) included eight species under *Scipinia* in the Catalogue, of which only one, namely *S. horrida* is known from India. Huang et al. (2007) reviewed *Scipinia* and described one new species from China, thus the total number of species under this genus stands at nine. Ambrose (2006) listed *S. horrida* and stated its distribution as: China, India, Indonesia (Java), Myanmar, Philippines, and Sri Lanka; this list also included names of places from southern India and Calcutta (=Kolkata). Huang et al. (2007) also listed Sikkim as another locality along with several places from China. Apparently, *S. horrida* has not so far been recorded from Assam. Originally described as *Sinea horrida* Stål, 1859, the species was then transferred to the genus *Scipinia* Stål, 1861 of which it is the type species (Maldonado-

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Capriles 1990).

Three species of *Irantha* are known from India: (i) *I. armipes* (Stål, 1855), (ii) *I. consobrina* Distant, 1904, and (iii) *I. pepparai* Livingstone & Ravichandran, 1988; all these three species have been recorded from southern India (Ambrose 2006). We are, however, not aware of any *Irantha* recorded from Assam. *Irantha armipes* was originally described as *Harpactor armipes* by Stål (1855) and is the type species of the genus *Irantha* Stål, 1861; only three species were listed by Maldonado-Capriles (1990) (namely *I. armipes*, *I. consobrina*, and *I. bramarbas* Breddin, 1903) without reference to *I. pepparai*. Chen et al. (2005) described a new species of *Irantha* from China, *Irantha nigrina* Chen, Zhao & Cai, 2005 which then becomes the fifth species under this genus.

Both, *S. horrida* and *Irantha* sp. belong to the subfamily Harpactorinae, the largest subfamily of Reduviidae, with over 2,800 described species under 320 genera (Weirauch et al. 2014). Most of the members of this family are predators and play an important role in the ecosystem.

The genera *Scipinia* and *Irantha*, and the included species *Scipinia horrida* as well as *Irantha armipes*, have been redescribed in detail with several illustrations (see Chen et al. 2005; Huang et al. 2007), so here we are only giving brief comments and photographic illustrations of the two species. Comparative images of both these species are given here. The specimen of *Irantha* was collected in a spider web and because the genital region was damaged, we are treating that as *Irantha* sp. close to *I. armipes*. We are also providing some images of the type specimen of *I. armipes*, preserved in the Swedish Museum of Natural History, Stockholm, Sweden (NHRS). In the recent work Zhao (2008) placed *Irantha* and *Scipinia* under the new tribe Iranthini.

## METHODS

*Scipinia* specimens were collected from pigeon pea plantation of Horticulture Research Station, Guwahati, by hand picking method, killed with ethyl acetate and preserved in ethanol. For *Irantha* sp., a single damaged individual was found dead in a spider web. Specimens were studied under the Leica stereozoom (MZ6) and photographs were taken with an attached Canon PowerShot S50 camera. Several images of the bugs were stacked using Combine ZM software and the images were processed with Adobe Photoshop CS5. Measurements were done with Erma stage and ocular micrometre. For the preparation of male genitalia, the pygophore was separated from body by dipping the abdomen in hot KOH

for 3–5 minutes and the insect was briefly rinsed with 5% acetic acid, washed in 70 % alcohol and dry mounted subsequently. Different views of pygophore were first photographed and then the phallus was removed after treating the pygophore in hot KOH further for 5 minutes. Pygophore and phallus were photographed under Leica as mentioned above.

**Material examined:** *Scipinia horrida* two males, one female; *Irantha* sp. one male (abdomen damaged). Both species were collected in Assam (Assam Insects nos. 16 to 18 (*Scipinia*), Assam Insects no. 19 (*Irantha*)). Specimens are currently preserved in Modern College, Pune.

## TAXONOMY

Reduviidae Latreille, 1807

Harpactorinae Amyot & Audinet-Serville, 1843.

Iranthini Zhao, 2008

*Scipinia* Stål, 1861 (type species *Sinea horrida* Stål, 1859)

*Scipinia horrida* (Stål, 1859)

For various other synonyms, please refer to Maldonado-Capriles (1990).

**Brief description:** Total length: Male 11 mm, female 11.5 mm. Colour and vestiture: Body mostly ochraceous; dorsally a narrow median region of anteocular and major postocular region of head, very narrow median region of anterior lobe of pronotum, lateral margins of scutellum, clavus and membrane of hemelytra, thoracic sterna, especially mesosternum, dark brown; lateral area of abdomen with blackish patches in basal half; legs with femora reddish-ochraceous, tibia and tarsi dark brown. Whole body covered with small, adpressed, yellowish setae and some scattered, long, translucent setae, which are more numerous and conspicuous on legs (Image 1A); head and thoracic region densely pubescent on ventral side (Image 1C,F).

Structure: Head cylindrical; anteocular slightly shorter than postocular (much shorter than postocular if neck is included); deep transverse sulcus at level of eyes as seen laterally. Head dorsally bears three pairs of long spines: one pair near antennal base, one above eyes and one behind eyes, along with many (about 10 pairs) small spines in between long spines as well as in posterior part of head. Eyes globular, with its inferior margin not reaching ventral margin of head; ocelli widely separated and also far from eyes, situated near base of third spine on head (Image 1B,D). Antennae four segmented, first antennomere longest, remaining subequal. Labium with first visible segment slightly longer than visible segment II, visible segment III smallest. Thorax with pronotum almost hexagonal in shape, broadest in middle with



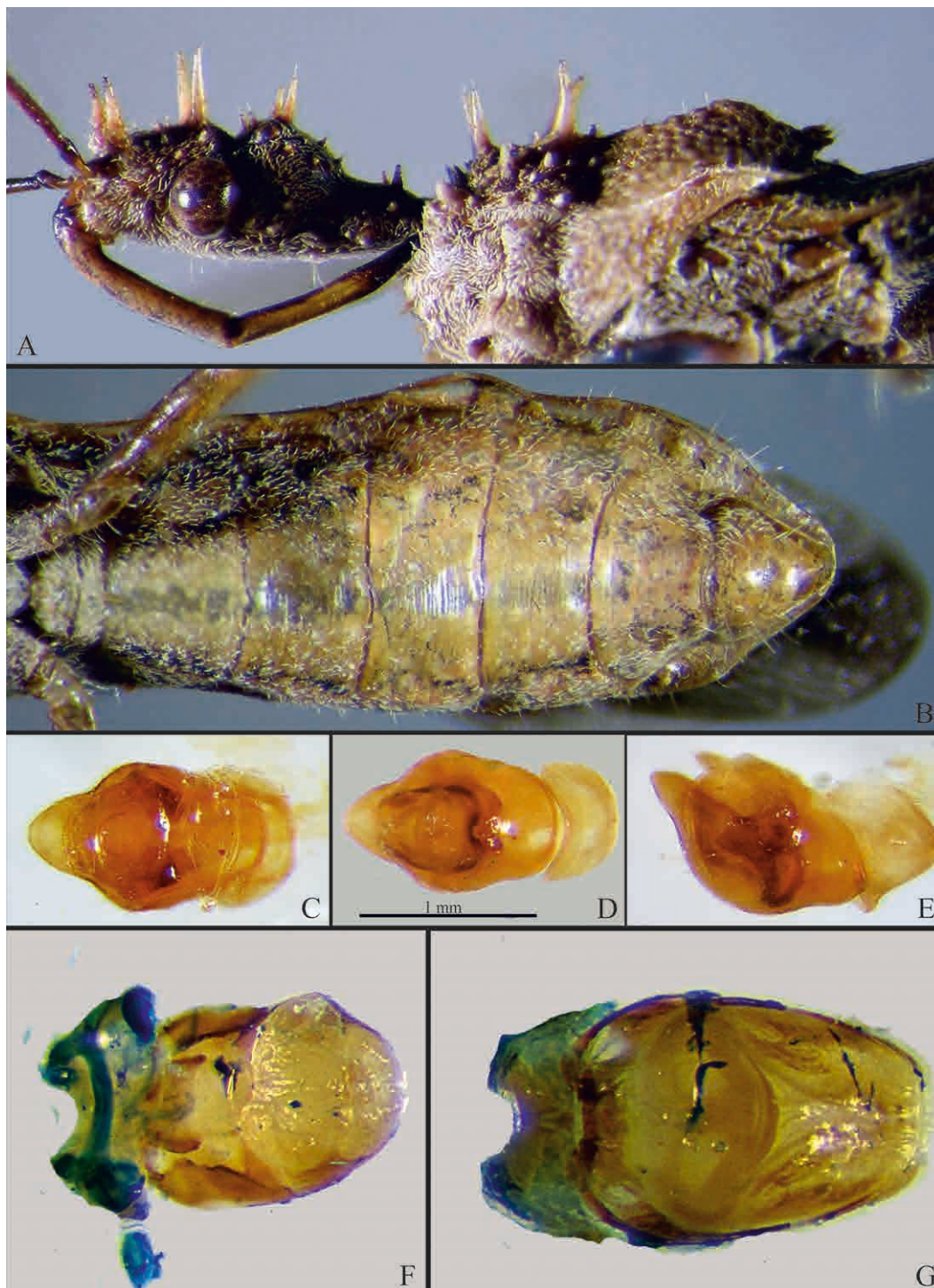


Image 1. *Scipinia horrida*: A—Dorsal habitus | B, C & D—Head in dorsal, ventral and lateral view, respectively | E—Pronotum in dorsal view | F—Thoracic sternite in ventral view | G—Fore femur. © H.V. Ghate.

angular humeral angles, narrowed at anterior and posterior margins, anterior margin straight, posterior margin strongly sinuate over scutellum; pronotum divided into small anterior and large posterior lobe; anterior lobe with many blunt tubercular spines and two pairs of large spines, posterior pair with Y shaped or bifurcate spines (Image 2A); posterior lobe strongly rugulose with beehive like pattern of deep punctures

(Image 1E). Scutellum is very small and triangular. Abdomen, in case of male, is slim and slender, with almost triangular visible part of pygophore, in ventral view (Image 2B); in case of female, abdomen is dilated in fourth and fifth segment.

Legs with fore femur moderately incrassate, with numerous pale tubercles, armed with whorls of fine spines, one dorsoapical spine longest, projected



**Image 2.** *Scipinia horrida*: A—Lateral view of head and pronotum | B—Ventral view of abdomen | C–E—Pygophore in dorsal, ventral and lateral view, respectively | F & G—Phallus in dorsal and ventral view, respectively. © H.V. Ghaté.

outwardly (Image 1A,G); tibia thin and slightly curved inward in distal one third, with many small tubercles ventrally and an apical large and triangular tubercle; tarsus three segmented, claws relatively long. Mid- and hind legs with some long spine like setae, femora slightly

nodulose; mid legs shortest. Hemelytra pass beyond tip of abdomen.

Pygophore elongate oval, as shown here in dorsal, ventral and lateral views (Image 2C–E); parameres absent. Phallus in dorsal and ventral view is also



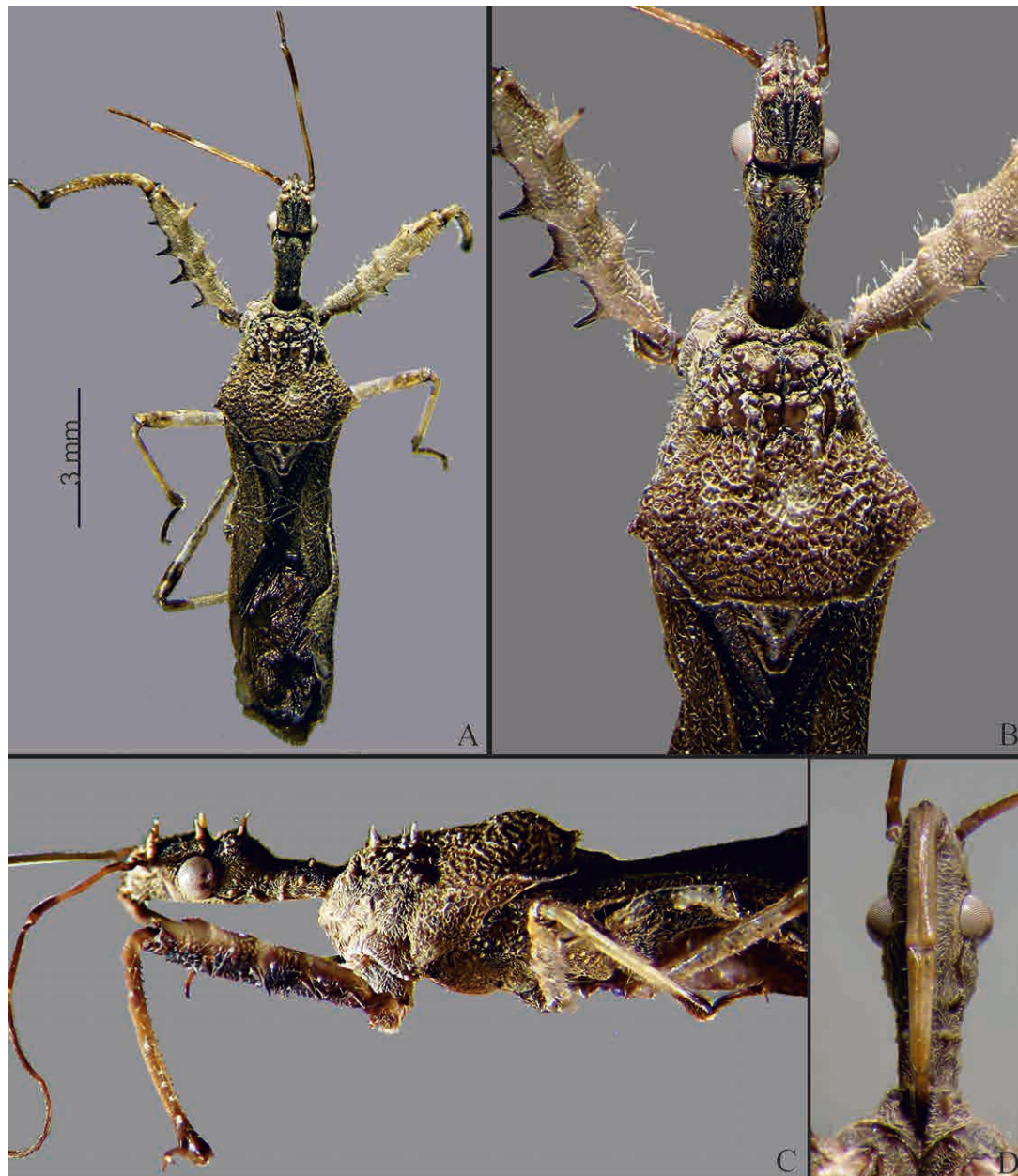


Image 3. *Irantha* sp.: A—Dorsal habitus | B—Details of head and pronotum in dorsal view | C—Lateral view | D—Ventral view of head. © H.V. Ghate.

illustrated (Image 2F,G).

**Distribution:** India: (Andaman & Nicobar Islands (South Andaman), Sikkim, Tripura, Karnataka, Tamil Nadu, and West Bengal, Meghalaya), China, Indonesia, Myanmar, Philippines, and Sri Lanka (Distant 1904, Ambrose 2006, Bhagyasree 2018, Huang et al. 2007, Mukherjee & Hassan 2016)

#### *Irantha* Stål, 1861

Type species by monotypy: *Harpactor armipes* Stål, 1855.

For various other synonyms of *Irantha armipes*, refer to Maldonado-Capriles (1990).

Specimen examined: *Irantha* sp. close to *I. armipes* (Stål, 1855) (total length: 12 mm, male).

**Comments:** *Irantha* sp. illustrated here has deceptively similar appearance to *Scipinia horrida*, what could possibly lead to a misidentification. However, careful observations revealed the following significant



Image 4. Habitus of type specimen of *Irantha armipes*: A—Dorsal view | B—Ventral view | C—Lateral view | D—Labels. © The Swedish Museum of Natural History; photographed by Gunvi Lindberg, 2019.

differences or diagnostic characters.

*Irantha* has longer neck like region than *Scipinia*; fore femur in *Irantha* is with many long and strong spines (Image 3A), in *Scipinia* fore femur is with many small and only one long subapical spine (Image 1G); first visible labial segment is distinctly longer than second in *Irantha* (Image 3D) and it is only slightly longer than second in *Scipinia* (Image 1C,D); pronotal humeral angles are sharp in *Irantha* (Image 3B) but are slightly blunt in *Scipinia* (Image 1E); in *Scipinia* the spines on dorsal side of head and pronotum are strong and long and the long spines in posterior pair of pronotum are bifurcate at tip (Image 2A)

while in *Irantha* the spines on head and pronotum are small and none is bifurcate at tip (Image 3C). Abdomen is broadly similar but comparative images are not given as it is damaged in this specimen of *Irantha*.

Image 4 includes the dorsal (4A), ventral (4B) and lateral (4C) views of the syntype of *Irantha armipes* preserved in The Swedish Museum of Natural History, along with its labels (4D). The characters of this species are clearly observed in this well-preserved specimen studied by C. Stål. The lateral view shows the characters of spines on head and pronotum, labial segments and the nodulose and spiny fore femora very well.



**Distribution:** *Irantha armipes* is known from India (Karnataka and several localities in southern India), Sri Lanka, and Nepal (Ambrose 2006, Bhagyasree 2018 checklist) but apparently it is so far not recorded from Assam.

## DISCUSSION

The two genera *Irantha* and *Scipinia* are closely related to each other and have similar body form and genital structure and may be synonymized in future, as sometimes it is difficult to assign the related species (Huang et al. 2007). We hope that the illustrations provided here will help to easily distinguish these two species found in India. Chen et al. (2005) have listed other related genera and commented on their narrow distribution while Huang et al. (2007) also pointed out that all species of *Irantha* are distributed only in the Oriental and Australasian Regions.

Das & Ambrose (2007) studied bionomics of *I. armipes* (from specimens collected in Kanyakumari, Tamil Nadu) and gave several illustrations of adult and nymphal morphology. Das et al. (2010) studied predation of *Helicoverpa* by *Scipinia*, however, information about the bionomics of *S. horrida* is still unknown.

The distribution records of most insects found in India are rather poor; detailed, well-illustrated redescrptions of most species are also necessary as their identification is still problematic (Ghate 2013). Correct identification helps to authentically add to the record of distribution and also to the study of comparative aspects of bionomics or phylogeny.

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