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# THE NEW SPECIES *PURUMITRA AUSTRALIENSIS* (ARANEAE, ULOBORIDAE) WITH NOTES ON ITS NATURAL HISTORY

The genus *Purumitra* Lehtinen 1967 was previously known only from specimens of *Purumitra grammicus* (Simon 1893) collected on the Phillipine island of Luzon and the Caroline island of Ponape (Opell 1979). This paper describes a second species of *Purumitra* that is found on continental islands of the Great Barrier Reef located off the east coast of Queensland, Australia. For nomenclatural purposes, B. D. Opell is designated the author of this new species' name.

We thank the Queensland Department of Environment and Heritage for permission to work on the islands and transportation to some of them. T. W. Schoener thanks the University of Queensland and Professor J. Kikkawa for arranging a visiting professorship, and the John Simon Guggenheim Foundation for the fellowship supporting this research. Robert Bennet made useful comments on the manuscript.

***Purumitra australiensi*** new species
Figs. 1–5, Tables 1, 2

**Types.**—Female holotype and paratype from Pelican Island (nr. Brampton Island), 30 September 1992 (T. Schoener, S. Keen); male paratype from Cow Island (near Whitsunday Island), 17 October 1992 (T. Schoener, S. Keen); in Queensland Museum (see Fig. 1). The epithet of this species is an adjective derived from its known distribution.

**Diagnosis.**—*Purumitra australiensis* is similar to *P. grammicus* in size, coloration, and general appearance (Figs. 2, 3; fig. 159 in Opell 1979). Female *P. grammicus* has an epigynum with a pair of lateral crypts and a median crypt that is subdivided by sclerotized ridges into a pair of anterior and a pair of posterior atria (fig. 160 in Opell 1979). In contrast, the epigynum of *P. australiensis* has a pair of lateral crypts and a large, undivided median crypt (Fig. 5). The male palpus of *P. grammicus* has a median apophysis bulb (MAB) whose central depression is completely divided by a narrow sclerotized ridge into a small region that is adjacent to the median apophysis spur (MAS) and a larger region near the MAB's dorsal surface (fig. 157 in Opell 1979). The width of this species' concave median apophysis spur (MAS) is 0.7× its length. In contrast, the MAB of a palpus of *P. australiensis* (Fig. 4) has a central depression incompletely divided by a short sclerotized ridge into a large region ventral to the MAS (above the MAS in Fig. 4) and a small region near the base of the MAB. In *P. australiensis* the width of the concave MAS is only 0.4× its length.

**Description.**—Table 1 gives measurements of male and female specimens. As shown in Fig. 2, the carapace of a female is dark gray with median

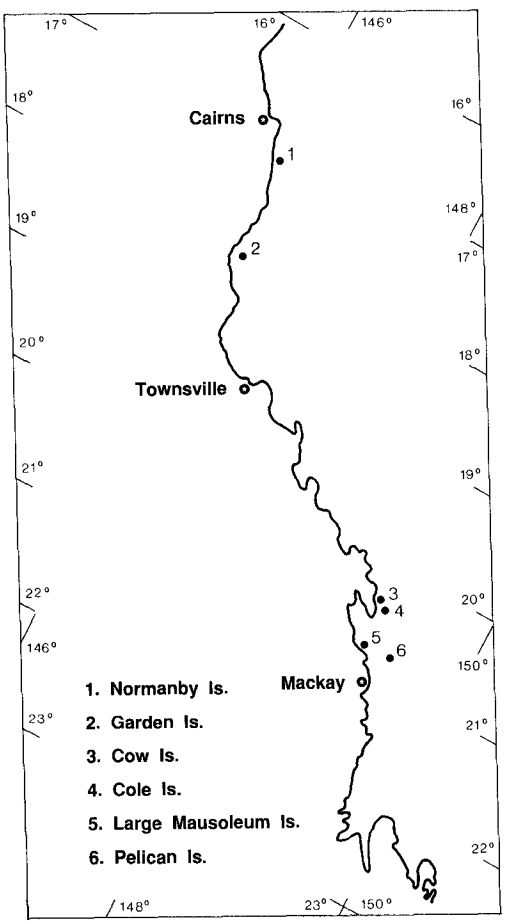
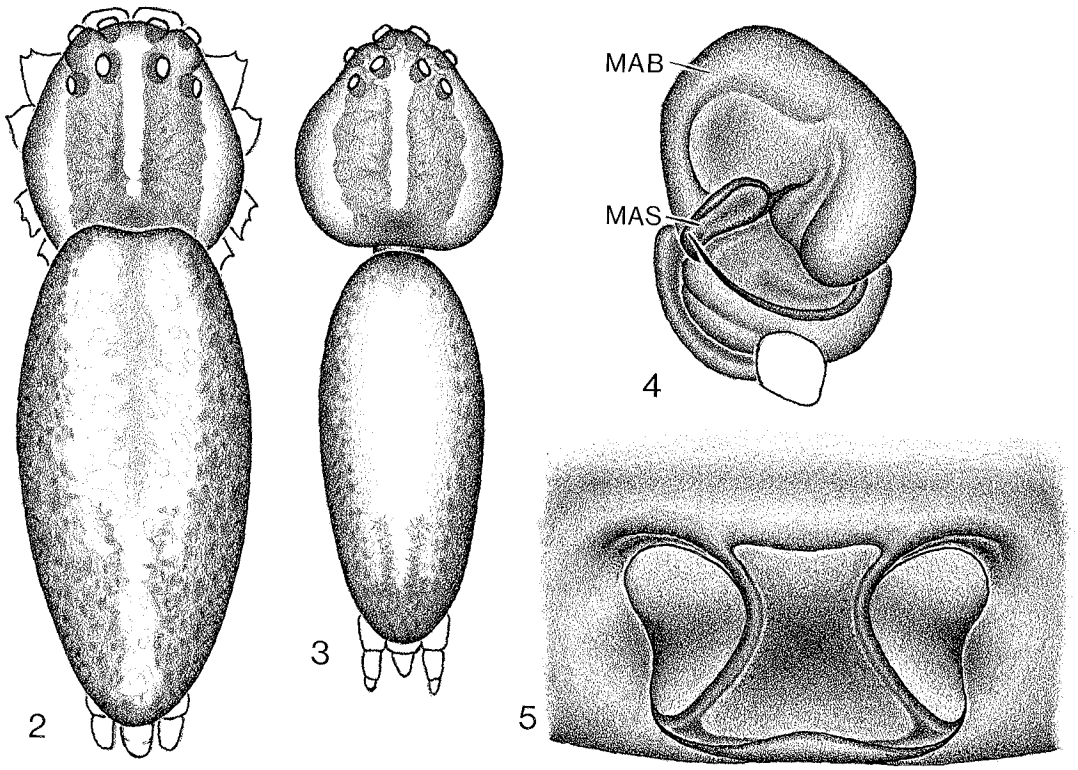



Figure 1.—The east coast of Queensland, Australia, showing the location of the islands on which specimens of ***Purumitra australiensis*** new species were collected.




Figures 2–5.—***Purumitra australiensis*** new species. 2, dorsal view of female holotype; 3, dorsal view of male paratype; 4, retrolateral view of left palpal genital bulb of male paratype (MAB = median apophysis bulb, MAS = median apophysis spur); 5, ventral view of epigynum of female holotype.

and lateral tan stripes. The carapace also has a narrow, dark gray border not easily seen in dorsal view. Sternum dark gray. Chelicerae with a pair of narrow, black, dorso-ventral stripes. First legs gray with dorsal white stripe extending full length of femur, proximal white ring on metatarsus, and faint tan ring at center of tibia. Abdomen in dorsal view (Fig. 2) white with mottled gray sides; in lateral view mottled gray with a broad white stripe extending nearly its full length; in ventral view dark gray with a narrow, broken, median tan stripe and a pair of narrow, paraxial tan stripes. Male coloration (Fig. 3) similar to that of female except that the sternum has a light gray center and a dark margin and the first tibia is uniformly gray.

**Natural history.**—All specimens were collected from horizontal orb webs among understory/edge vegetation (including ferns) within forest very near the shoreline. Webs were located near the ground; all had a stabilimentum (Table 2). Webs of juveniles were nearer the ground than those of mature females and were about as likely

Table 1.—Measurements in mm of female holotype and male paratype of *Purumitra australiensis* new species.

| | Female | Male |
|---|---|---|
| Total length | 2.52 | 2.28 |
| Carapace length | 0.84 | 0.84 |
| Maximum carapace width | 0.72 | 0.72 |
| Clypeus height | 0.03 | 0.01 |
| AME, ALE diameter | 0.08, 0.05 | 0.08, 0.05 |
| PME, PLE diameter | 0.08, 0.06 | 0.06, 0.06 |
| AME, PME separation | 0.08, 0.14 | 0.08, 0.11 |
| Sternum length | 0.56 | 0.48 |
| Maximum sternum width | 0.44 | 0.36 |
| Coxa-trochanter I | 0.36, 0.36 | 0.32, 0.28 |
| Femur I, IV | 1.44, 0.96 | 1.32, 0.76 |
| Patella I, IV | 0.36, 0.28 | 0.32, 0.24 |
| Tibia I, IV | 1.24, 0.80 | 1.20, 0.64 |
| Metatarsus I, IV | 1.24, 0.70 | 1.12, 0.56 |
| Tarsus I, IV | 0.64, 0.56 | 0.56, 0.44 |
| Calamistrum length | 0.38 | — |
| Abdomen length | 2.00 | 1.60 |
| Maximum abdomen width | 0.96 | 0.64 |
| Cribellum width | 0.20 | — |

Table 2.—Web placement and web features of *Purumitra australiensis* new species.

| | Juveniles | Adult females |
|---|---|---|
| Height above ground in cm (mean ± 1 SD, *n*) | 20.3 ± 4.8, 5 | 27.3 ± 7.6, 4 |
| Stabilimentum type: No. with linear/ No. with circular | 3 / 2 | 1 / 4 |

to have linear as circular stabilimenta. Webs constructed by adult females usually had circular stabilimenta.

**Distribution.**—Mature specimens were collected on the following continental islands from September 30–November 28 1992 (Fig. 1): Large Mausoleum (Newry Island Group, near Cape Hillsborough), Pelican Island (near Brampton Island), Cole and Cow Islands (both in Whitsunday Island area), Normanby Island (Frankland Group, south of Cairns), Garden Island (south of Family Islands).

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