**Pseudagrion fumipennis**, a remarkable new species of damselfly from New Guinea (Odonata: Zygoptera: Coenagrionidae)

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_Pseudagrion fumipennis_ sp. nov. is described from widely separated localities in the lowlands of New Guinea and immediately adjacent islands. It is the first known coenagrionid from the Papuan region to possess brown-tinted apices on all four wings. The new species appears to be structurally most similar to _P. farinicolle_ from New Guinea and _P. ustum_ from Sulawesi, but its precise relationships are obscure.

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**Introduction**

The coenagrionid genus _Pseudagrion_ Selys is distributed widely from south Asia through Melanesia, with at least 42 described species recorded from the region between India and the Solomon Islands (Tsuda 1991). In New Guinea and the Moluccas the genus is represented by 10 described species (Ris 1915; Lieftinck 1932, 1937, 1949), but additional undescribed taxa are known from the region. During recent field surveys in the vast lowland rainforests of New Guinea, two of us (DP, SJR) collected a distinctive new species in this genus (Polhemus 1995, 1998, 2000; Polhemus et al. 2004; Richards et al. 1998), described herein.

The new species is tentatively identified as a member of _Pseudagrion_ based on its wing venation and male terminalia. However, it is set apart from all other New Guinean Coenagrionidae by the rich chestnut color which decorates the apices of all four wings.

**Material and methods**

All measurements in the following descriptions are given in millimeters. CL numbers in the Material Examined section refer to collection locality numbers used by the senior author to cross reference specimens, field notes, and habitat photographs. The holotype of _Pseudagrion fumipennis_ is deposited in the Australian Museum of Natural History, Sydney (AUSM); paratypes are deposited in the Smithsonian Institution, Washington, DC (USNM), and the Bishop Museum, Honolulu (BPBM).

**Taxonomy**

_Pseudagrion fumipennis_ sp. nov.

Figs 1–5

_Type material._ – Holotype ♂: Papua New Guinea: Gulf Prov., Sapoi River, 2 km S. Ivimka Camp, Lakekamu Basin, 146°29′45″E, 7°44′05″S, ca 100 m a.s.l., 29 November 1996, coll. S.J. Richards
(AUSM).** Paratypes:** Papua New Guinea, Gulf Prov.: Lubu River above Omo, 50 m., water temp. 19° C., 1 March 1995, 09:00–12:00 hrs. 06°58’41”S, 144°18’15”E, CL 7002, D. A. Polhemus, 1♂ (BPBM). **Southern Highlands Prov.:** Ai’io River at pipeline road, NE of Hedinia in Hedinia Valley, 480 m., water temp. 23.5° C., 23 March 1995, 10:00-11:00 hrs., CL 7032, D. A. Polhemus, 1♂ (BPBM). **Milne Bay Prov.:** Sideia Is., upper Kwabunamo River, in south central interior, 20 m. [65 ft.], 10°35’59”S, 150°50’54”E, water temp. 29° C., 15 January 2004, 11:30–14:00 hrs., CL 7288, D. A. Polhemus, 2♂ (USNM). **Indonesia: Irian Jaya Prov. [= Papua Prov.]:** 1 male, rainforest stream approx. 0.5 km. E. of PTFI Siewa exploration camp, 60 m. [200 ft.], 3°02’08”S, 136°22’40”E, water temp. 26° C., 11 April 1998, 09:00–11:00 hrs., CL 7089, D. A. Polhemus (USNM); 1 male, same locality as above except 21 April 1998, D. A. Polhemus (USNM); 1 male, small intermittent stream with pools in lowland forest at Kuala Kencana light industrial park, N. of Timika, 90 m. [300 ft.], 4°26’13”S, 136°51’50”E, water temp. 25° C., 27 March 1997, 13:00–14:00 hrs., CL 7043, D. A. Polhemus (USNM); 1 male, tributary to Iweka River, approx. 3 km. W. of Kuala Kencana, N. of Timika, 90 m. [300 ft.], 4°24’05”S, 136°50’06”E, water temp. 25° C., pH 6.95, 26 March 1997, 09:00–12:30 hrs., CL 7042, D. A. Polhemus (USNM).

**Description of male**

**Size.** A moderate sized damselfly; overall coloration brown and black, with pronotum and sides of thorax densely pruinose (Fig. 1). Body length 38–47 mm (mean = 42.0 mm, N = 8); abdomen length 32–40 mm (mean = 35.0 mm, N = 8); fore wing length 23–27 mm (mean = 25.0 mm, N = 7); hind wing length 20–28 mm (mean = 23.5 mm, N = 7). Female unknown.

**Colour.** Male: head with labium beige, rear of head black with whitish pruinosity. Labrum pale with a median black spot along hind margin, which is also thinly lined with black. Clypeus blackish, top of head deep rich dark brown, the ocelli each ringed with black. Occiput blackish, with barely visible dark brown postocular spots. Thorax with pronotum dark brown to black, covered by whitish pruinosity. Hind lobe fringed with long tan hairs. Mesepisternum rich dark brown, bearing scattered, very slender, erect, brown setae; mesopleural suture covered by a black stripe, this stripe rounded along dorsal margin just below wing bases, upper terminus of this stripe hooked downwards and facing posteriorly, anterior section narrowing evenly to a fine point which ends before reaching anterior (lower) end of mesopleural suture. Sides of thorax rich dark brown, metapleural suture thinly marked with black, entire side of thorax covered in whitish pruinosity posterior to mesopleural suture, leaving only upper portion of mesepimeron exposed. Legs, including femoral and tibial spines, black. Wings with overall coloration hyaline, with rich brown pigment enfusing the...