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A new *Gehyra* (Gekkonidae: Reptilia) from New Guinea with unique caudal scalation

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Abstract

We describe a new species of gekkonid gecko in the genus *Gehyra* from West Papua, Indonesia. *Gehyra serraticauda* **sp. nov.** keys to *Gehyra*, but is distinct from all known species; most notably, it is characterised by a continuous fringe of prominent acuminate lateral scales running the length of the tail, a feature shared with none of its congeners. Its robust body, intermediate size, numerous internasals, partially divided digital scancers, and the presence of well-developed popliteal folds further distinguish it from other Papuan *Gehyra*. The holotype of *Gehyra serraticauda* **sp. nov.** is of uncertain provenance, with the type locality listed as Fakfak, Onin Peninsula. However, the recent observation of a potential conspecific from Kaimana, Triton Bay supports the presence of this species in the region.

Key words: Gekkonidae, Reptilia

Introduction

The Australasian region is home to numerous endemic squamate radiations, including several independent radiations of gekkotan lizards (Gamble *et al.* 2012). *Gehyra* is one of the most diverse Australasian gecko radiations, with forty-one species distributed across Southeast Asia, Australia, and Polynesia (Heinicke *et al.* 2011). The genus probably originated in the Asian or Pacific region, but reaches its greatest species diversity in Australia (Doughty *et al.* 2012; Heinicke *et al.* 2011; Sistrom *et al.* 2012). Phylogenetic and morphological analyses continue to identify previously unrecognised *Gehyra* from across Australasia and Oceania (Flecks *et al.* 2012; Heinicke *et al.* 2011; Oliver *et al.* 2010).

The New Guinea region is another centre of diversity for *Gehyra* - with seven nominal indigenous species (*G. baliola* Duméril, *G. barea* Kopstein, *G. intersitalis* Oudemans, *G. lampei* Andersson, *G. leopoldi* Brongersma, *G. membranacruralis* King & Horner, *G. papuana* Meyer) and one human commensal (*G. mutilata* Wiegmann) (King & Horner 1989; Oliver *et al.* 2010; Rösler *et al.* 2005). Many of these species have received little or no taxonomic attention since their original description; several key types have been lost, and the specific distinctness of two species is in doubt (Bauer & Henle 1994; Brongersma 1934). Due to the poor state of Melanesian *Gehyra* taxonomy, large series in museum collections either cannot be confidently identified, or have been misidentified.

As part of an ongoing project to better understand the diversity of Melanesian *Gehyra*, we are examining material held in museums in Australia, Europe, Indonesia and North America. In the course of this work, we noted a very distinctive specimen in the Museum of Comparative Zoology (MCZ R7314) collected by Antwerp Edgar Pratt from the Fakfak area of western New Guinea (Fig. 1). This specimen clearly differs from all other recognised *Gehyra* in terms of scalation, digital anatomy, and caudal morphology. More recently Dr. Dmitry Telnov captured and photographed a very similar animal in the region around Triton Bay, just over 100 kilometers east of Fakfak. On the basis of the distinctive morphology of these geckos we herein describe a new species.

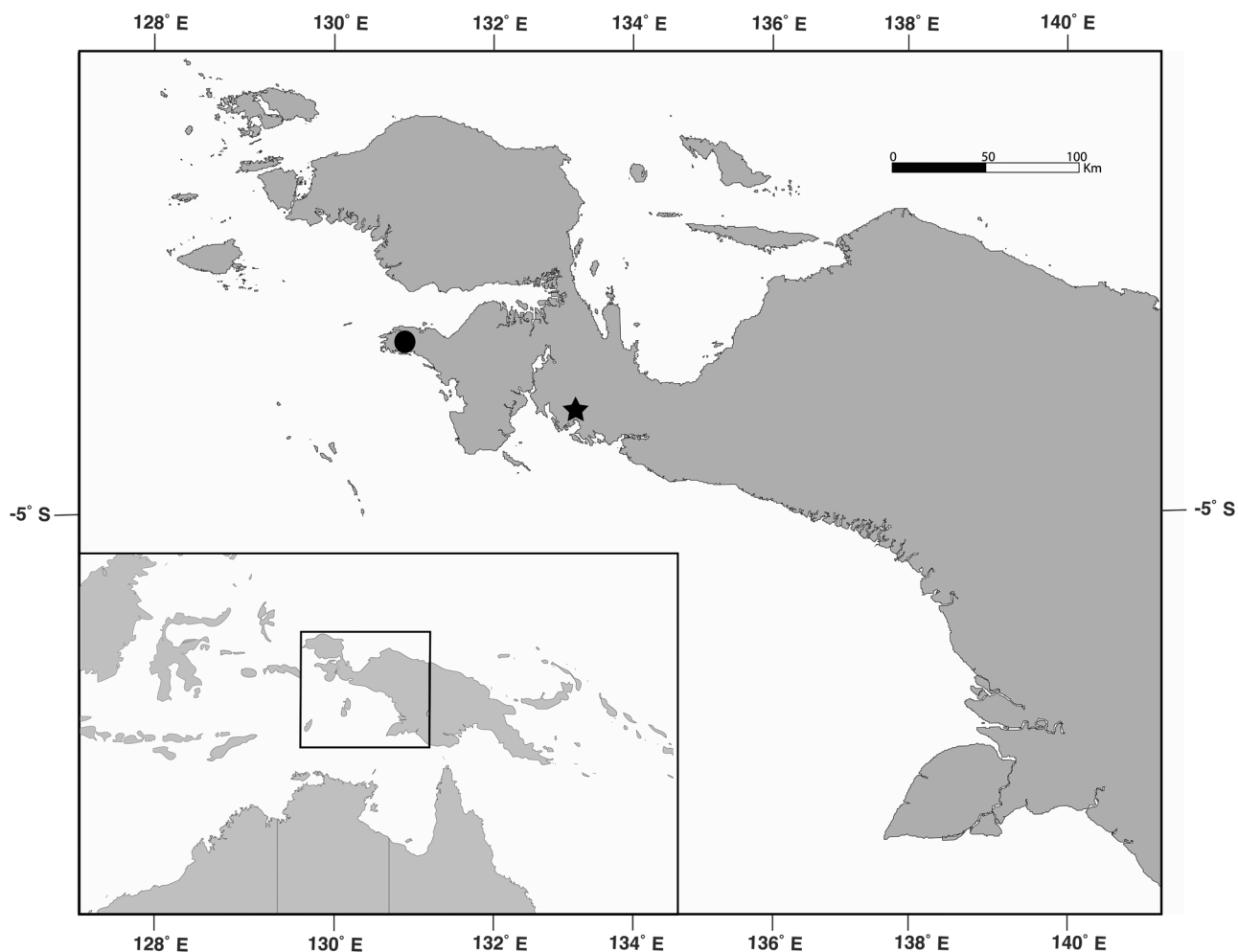


FIGURE 4. Map of western New Guinea showing the location of the township of Fakfak on the Onin Peninsula (black circle) and locality for uncollected specimen photographed by Dimitry Telnov (black star).

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APPENDIX 1. Material examined.

Institutional abbreviations are given in materials and methods.

- Gehyra barea*. RMNH 6625 (lectotype, largest specimen in series of three) Teon Island, South Banda Sea, Maluku Province, Indonesia; RMNH 5093 (paralectotype) Serua Island, south Banda Sea, Maluku Province, Indonesia; MZB lace 5438 (Field-number SJR 7719) 'Yakut Camp', Batanta Island, Papua Barat, Indonesia; MZB lace 5364 (Field-number SJR 7786) 'Waibya Camp', northern Salawati Island, Papua Barat, Indonesia.
- Gehyra baliola*. AMS R139399–120402, Fogamaiyu, Southern Highlands Province, PNG; AMS R102404, 120406, Waro, Southern Highlands Province, PNG; SAMA R64844, Gobe Ridge, Southern Highlands Province, PNG; CAS 121968–9 Boze, Western Province, PNG; CAS 126667, 126671–2 Matkomrae, Western Province, PNG; MCZ139425 Emiti, Bamu River, Western Province, Papua New Guinea; MCZ22905 Merauke, Papua Province, Indonesia.
- Gehyra georgopotthasti*. NMV D02058, D02059, D03244 Vanuatu.
- Gehyra lampei*. MWNH 690 (holotype), Bogadjim at Stephansort (German New Guinea), Madang Province, PNG.
- Gehyra marginata*. MZB lace 6062–64 West Halmahera, North Maluku Province; MZB lace 38, Obi, North Maluku Province, Indonesia; NMNH 215815–215817, 215819 Kampung Loleba, Wasile District, Halmahera, Moluccas, Indonesia; NMNH 237587 Kampung Pasir Putih, Jailolo District, Halmahera, Moluccas, Indonesia; NMNH 237638 Kampung Tuguis, Kao District, Halmahera, Moluccas, Indonesia.
- Gehyra membranacuralis*. NTM R13746 (holotype), NTM R13744–45 (paratypes), Port Moresby, PNG; NMNH 518565 Tekedu, 11 km SW of, Ivimka Camp Gulf Province, Papua New Guinea; MCZ124129, Wipim, Western Province, PNG; MCZ140719, MCZ146026 Mawatta, Western Province, PNG; MCZ135505, Waigani Swamp, Western Province, PNG; MCZ136092, Oriomo River, Western Province, PNG.
- Gehyra mutilata*. MVZ 268080, 268082 Tanah-Jampea Island, Sulawesi, Indonesia; MVZ 74897, 74900–7402, Morobe Province, Papua New Guinea; MCZ R153056 Brown River, Central Province, Papua New Guinea; MCZ R123256 Daru, Western Province, Papua New Guinea.
- Gehyra oceanica*. SAMA R04920, SAMA R05178A–B Kunua, Bougainville Province, Papua New Guinea; SAMA R08224A–B, SAMA R08227A–C, SAMA R08231A–B Mutahi, Bougainville Province, PNG; SAMA R08254 Topanas, Bougainville Province, PNG; SAMA R08686–7 Keravat, East New Britain Province, PNG; SAMAR06728 Lagenda