

# NEW RECORDS OF *UPEROLEIA* (ANURA: LEPTODACTYLIDAE) FROM WESTERN AUSTRALIA WITH SUPPLEMENTARY OSTEOLOGICAL DATA ON *UPEROLEIA MICROMELES*

*Uperoleia* Gray, 1842 comprises 23 species<sup>1</sup> of which ten occur in Western Australia: two from the Pilbara and eight from the Kimberley Division. Recently significant range extensions of two species into W.A. have been discovered.

*Uperoleia trachyderma* Tyler, Davies & Martin, 1981

On 13.ii.1987 we collected *U. trachyderma* during heavy thunderstorms on the irrigation flats of the Ord River Scheme at Kununurra (WAM R96781, 8.5 km NNE Kununurra, at the junction of Ivanhoe and Research Stations Rds). This represents an addition to the fauna of W.A.

The species was collected on self-mulching grey cracking clay.<sup>2</sup> *U. trachyderma* is the only member of the genus to be associated with a particular soil type,<sup>3</sup> and all previously collected specimens have this fidelity.

Self-mulching grey cracking clays are distributed disjunctly throughout W.A., the N.T. and Qld;<sup>2</sup> those on the Barkly Tableland are considered to have evolved *in situ*.<sup>4</sup> Distribution along current drainage patterns would explain the presence of the species on the Georgina River and at Lawn Hill in Qld<sup>1</sup> but the occurrence of the species at Newry Station in the far northwest of the N.T.<sup>5,6</sup> and at Kununurra remains an enigma.

Two other vertebrates have comparable disjunct distributions on grey cracking clays: the monitor *Varanus spenceri*<sup>7</sup> and the planigale *Planigale ingrami*;<sup>8,9</sup> while two species of bird, the flock pigeon *Histiophaps hirsutirostris* and the red-chested quail *Turnix pyrothorax*, have their centres of abundance on these soils.<sup>10</sup> Perhaps the question of the origins of the Barkly Tableland soils should be examined in the light of the endemicity of the associated fauna.

An additional species of *Uperoleia* has been recorded in W.A.<sup>6</sup> A specimen of *U. micromeles* was collected by A. A. Burbidge and P. J. Fuller on 25.iv.1979, 1 km S Staffords Bore (22°22'S, 127°24'E) (WAM R64073). Previously known only from the Tanami Sanctuary, N.T., the species is unusual in a number of morphological and osteological features. Re-examination of the paratype alizarin has enabled the clarification of some osteological features not included in the original description.<sup>11</sup> Here we redefine the species and report these features.

*Uperoleia micromeles* Tyler, Davies & Martin, 1981

**Definition:** A relatively large species (♂ 27 mm, ♀ 24–31 mm S–V) of gross habitus; maxillary teeth present as vestiges; narrowly exposed frontoparietal fontanelle; short, flattened unwebbed toes; internarial span greater than eye to naris distance; carpus of six elements; ilial crest present. Advertisement call not known.

**Osteology:** Ilium with small dorsal crest (Fig. 1). Dorsal prominence very large, mesa-shaped. Dorsal prominence lateral; pubis calcified.

Carpus of six elements. O. radiale larger than O. ulnare. These elements articulate proximally with O. radioulna,

with each other on their proximomedial border, with large transversely elongated O. centrale postaxiale distally. O. radiale articulates laterally with O. centrale preaxiale.



Fig. 1 Lateral view of the pelvis of *Uperoleia micromeles* (Paratype).

O. centrale postaxiale articulates distally with bases of O. metacarpi III, IV and V; small flange extends proximally from lateroproximal corner (Fig. 2). O. centrale preaxiale articulates laterally with O. radiale, distally with O. centrale postaxiale and carpal elements of O. distale carpal 2 and 3, laterally with basal prepollical element.

Three distal tarsal elements. Lateral element largest, lies at base of O. metatarsus III, extending laterally to articulate with medioproximal side of base of O. metatarsus IV, medially to base of O. metatarsus II. Medial element lies at base of O. metatarsus I, articulates with O. centrale prehallucis. Distal prehallucal element long, elliptic, extending for approximately 2/3 the length of O. metatarsus I (Fig. 2).

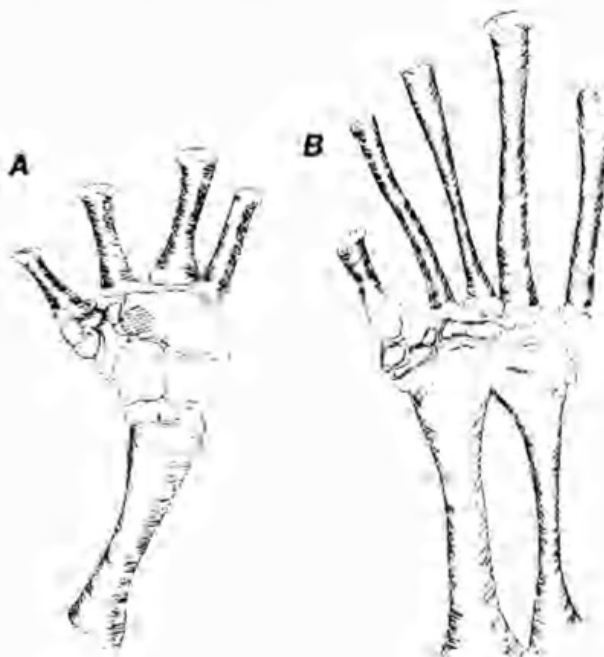


Fig. 2 (A) Palmar view of the carpus and (B) plantar view of the tarsus of *Uperoleia micromeles* (Paratype).

*Comparison with other species:* *Uperoleia micromeles* is a functionally edentate species (the teeth are vestigial) with a poorly exposed frontoparietal fontanelle. This species is unique amongst *Uperoleia* in a number of features: presence of vestigial teeth; a broad snout (E-N/IN 0.83–0.90<sup>11</sup>); anteromedial extensions to the nasals; and the presence of a moderately developed ilial crest.

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<sup>3</sup>Davies, M. (1987) Taxonomy and systematics of the genus *Uperoleia* Gray, 1842 (Anura: Leptodactylidae). Ph.D. thesis, University of Adelaide. Unpubl.

<sup>4</sup>Northcote, K. H. Pers. comm.

<sup>5</sup>Tyler, M. J., Watson, G. F. & Davies, M. (1983) Trans. R. Soc. S. Aust. 107(4), 243–245.

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<sup>8</sup>Parker, S. A. (1973) Rec. S. Aust. Mus. 16(11), 1–57.

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<sup>10</sup>Parker, S. A. Pers. comm.

<sup>11</sup>Tyler, M. J., Davies, M. & Martin, A. A. (1981) Aust. J. Zool. Suppl. Ser. 79, 1–64.

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