ACTA PALAEONTOLOGICA POLONICA

A new deinonychosaurian track from the Lower Cretaceous Hekou Group, Gansu Province, China

Lida Xing, Daqing Li, Jerald D. Harris, Phil R. Bell, Yoichi Azuma, Masato Fujita, Yuong-Nam Lee, and Philip J. Currie
Acta Palaeontologica Polonica 58 (4), 2013: 723-730 doi: http://dx.doi.org/10.4202/app.2011.0115

Herein we describe deinonychosaurian (Dinosauria: Theropoda) tracks in the Lower Cretaceous Hekou Group at sites I and II of Liujiaxia Dinosaur National Geopark, Gansu Province, China. The site preserves 71 didactyl tracks, the largest concentration of deinonychosaurian tracks in Asia. The tracks pertain to a new dromaeopodid ichnospecies: *Dromaeosauripus yongjingensis* ichnosp. nov., which is diagnosed by: a digital pad formula of x–1–3–4–x and a mean divarication angle between digits III and IV of 19° , and having the proximal portion of digit II contacting the anterior margin of a large, rounded metatarsophalangeal pad. Six *Dromaeosauripus* trackways from site II comprise at least two, and possibly three, turning trackways in which the track maker(s) turned without slowing down. None of the *Dromaeosauripus* trackways are parallel or closely spaced, suggesting that they were made by solitary track makers. Estimates of dromaeopodid track–maker sizes are between 61–300 cm, well within the size range established by body fossils of both dromaeosaurids and troodontids.

Key words: Dinosauria, Theropoda, Deinonychosauria, *Dromaeosauripus yongjingensis*, Cretaceous, Hekou Group, China.

Lida Xing [xinglida@gmail.com], School of the Earth Sciences and Resources, China University of Geosciences, Beijing 100083, China and Department of Biological Sciences, University of Alberta, 11455 Saskatchewan Drive, Edmonton, Alberta T6G 2E9, Canada; Daqing Li [daqingligs@gmail.com], Geological Museum of Gansu, Lanzhou 730040, China; Jerald D. Harris [jharris@dixie.edu], Physical Sciences Department, Dixie State College, 225 South 700 East, St. George, Utah 84770, USA; Phil R. Bell [philbyb@gmail.com], Pipestone Creek Dinosaur Initiative, Clairmont, Alberta T0H 0W0, Canada; Yoichi Azuma [y.azuma@dinosaur.pef.fukui.jp], Fukui Prefectural Dinosaur Museum, 51-11, Terao, Muroko, Katsuyama, Fukui 911-8601, Japan; Masato Fujita [fujita@tsm.toyama.toyama.jp], Toyama Science Museum, 1-8-31 Nishinakano-machi, Toyama, Toyama, 939-8084, Japan;

Yuong-Nam Lee [ylee@kigam.re.kr], Geological Research Division, Korea Institute of Geoscience and Mineral Resources, Daejeon 305-350, South Korea; Philip J. Currie [philip.currie@ualberta.ca], Department of Biological Sciences, University of Alberta, 11455 Saskatchewan Drive, Edmonton, Alberta T6G 2E9, Canada.