

Coleoptera (Histeridae and Scarabaeidae) from Baird's pocket gopher (*Geomys breviceps*) burrows from Southeastern Oklahoma

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Ecological research of the insect fauna associated with pocket gophers in the southern United States has yielded several recently published studies including a number of undescribed species of insects, mainly beetles (Coleoptera) in the families Histeridae, Leiodidae, and Scarabaeidae (Peck and Skelley 2001, Skelley and Gordon 2001, Skelley and Kovarik 2001, Kovarik et al. 2008; Tishechkin and Cline 2008, Connior 2011a). Some of these studies have focused on specific taxonomic groups of pocket gophers (e.g. Skelley and Kovarik 2001; Kovarik et al. 2008), while others have focused on geopolitical boundaries (e.g. Tishechkin and Cline 2008). From these studies, patterns of regional distributions of insect inquilines are starting to emerge, especially regarding the community ecology of pocket gopher hosts and insect inquilines.

Oklahoma has two species of pocket gophers within the genus *Geomys*. Baird's pocket gopher (*Geomys breviceps*) occurs in the eastern half of the state (Sulentich et al. 1991) and Plains pocket gopher (*Geomys bursarius*) occurs in the western half of the state (Connior 2011b). Limited information regarding pocket gopher beetle inquilines is known from Oklahoma (e.g. Gordon and Skelley 2007). This study was conducted to augment the known distribution of beetle inquilines from Baird's pocket gopher within the southeastern portion of Oklahoma. Between March and April 2013, we sampled four counties (Atoka, Choctaw, McCurtain,

and Pushmataha) in extreme southeastern Oklahoma. We excavated pocket gopher burrow mounds in all four counties following the techniques of Connior (2011a) and set four pitfall traps in Pushmataha County following the techniques of Skelley and Gordon (2001). All specimens were preserved in 70% EtOH for later identification and subsequently deposited in the following institutions: Louisiana State Arthropod Museum and Florida State Collection of Arthropods. The taxonomy of the Scarabaeidae follows Gordon and Skelley (2007). Specimen identifications were furnished by the following specialists for each group as listed: A. K. Tishechkin (Histeridae), Louisiana State Arthropod Museum; and P. E. Skelley, Florida State Collection of Arthropods (Scarabaeidae).

Histeridae

Onthophilus kirni Ross – **Atoka Co.**, Jct. N4015 Co. Rd. (McGee St. Pk. Rd.) and E1890 Co. Rd. (Sain Rd.) (34.272912°N, 95.875530°W); 8 March 2013; (1) burrow excavation. **Choctaw Co.**, Fort Towson historic site off US 70 (34.025801°N, 95.258803°W); 1 March 2013; (3) burrow excavation. **McCurtain Co.**, 5 km NW Texas/Oklahoma border, St Hwy 87 (33.728231°N, 94.716294°W); 1 March 2013; (3) burrow excavation. **Pushmataha Co.**, 17 km E Rattan, Hwy 3 (34.186536°N, 95.216083°W); 8 March 2013; (10) burrow excavation; 8 March- 25 April 2013 (1) pitfall trap. This beetle is a new state record. It has

been reported from pocket gopher burrows from surrounding Arkansas (Kovarik et al. 2008), Louisiana (Tishechkin and Cline 2008, Connior 2011a), and Texas (Ross 1944; Helava 1978).

Spilodiscus gloveri (Horn) – **Atoka Co.**, Jct. N4015 Co. Rd. (McGee St. Pk. Rd.) and E1890 Co. Rd. (Sain Rd.) (34.272912°N, 95.875530° W); 8 March 2013; (2) burrow excavation. **McCurtain Co.**, 5 km NW Texas / Oklahoma border, St Hwy 87 (33.728231° N, 94.716294° W); 1 March 2013; (1) burrow excavation. **Pushmataha Co.**, 17 km E Rattan, St Hwy 3 (34.186536° N, 95.216083° W); 8 March 2013; (5) burrow excavation. This beetle has been previously reported from Latimer County (Caterino 1998). It was also reported from Kansas and Oklahoma, although no further data was given (Casey 1916).

Scarabaeidae

Cryptoscatomaseter acuminatus (Cartwright) – **Pushmataha Co.**, 17 km E Rattan, St. Hwy. 3 (34.186536° N, 95.216083° W); 8 March 2013; (5) burrow excavation; 8 March- 25 April 2013 (3) pitfall trap. This beetle is a new state record. It has been reported from pocket gopher burrows from surrounding Arkansas (Fiene et al. 2011), Louisiana (Tishechkin and Cline 2008, Connior 2011a), and Texas (Gordon and Skelley 2007).

Cryptoscatomaseter haldemani (Horn) – **Atoka Co.**, Jct. N4015 Co. Rd. (McGee St. Pk. Rd.) and E1890 Co. Rd. (Sain Rd.) (34.272912°N, 95.875530° W); 8 March 2013; (2) burrow excavation. **Choctaw Co.**, Fort Towson historic site off US 70 (34.025801° N, 95.258803° W); 1 March 2013; (9) burrow excavation. **McCurtain Co.**, 5 km NW Texas / Oklahoma border, St. Hwy. 87 (33.728231° N, 94.716294° W); 1 March 2013; (6) burrow excavation. **Pushmataha Co.**, 17 km E Rattan, St. Hwy. 3 (34.186536° N, 95.216083° W); 8 March 2013; (5) burrow excavation; 8 March- 25 April 2013 (3) pitfall trap. This beetle has been previously reported from Latimer County (Gordon and Skelley 2007).

Cryptoscatomaseter oklahomensis (Brown) – **Atoka Co.**, Jct. N4015 Co. Rd. (McGee St. Pk. Rd.) and E1890 Co. Rd. (Sain Rd.) (34.272912°N, 95.875530° W); 8 March 2013; (3) burrow excavation. **Choctaw Co.**, Fort Towson historic site off US 70 (34.025801° N, 95.258803° W); 1 March 2013; (1) burrow excavation. **McCurtain Co.**, 5 km NW Texas / Oklahoma border, St. Hwy. 87 (33.728231° N, 94.716294° W); 1 March 2013; (17) burrow excavation. **Pushmataha Co.**, 17 km E Rattan, St. Hwy. 3 (34.186536° N, 95.216083° W); 8 March 2013; (8) burrow excavation; 8 March- 25 April 2013 (3) pitfall trap. This beetle has been previously reported from Latimer County (Gordon and Skelley 2007).

Euphoria discicollis (Thomson) – **Pushmataha Co.**, 17 km E Rattan, St. Hwy. 3 (34.186536° N, 95.216083° W); 8 March 2013; (2) burrow excavation. This beetle has been previously reported from Cleveland and Payne Counties (Orozco 2012).

Geomyphilus insolitus (Brown) – **Atoka Co.**, Jct. N4015 Co. Rd. (McGee St. Pk. Rd.) and E1890 Co. Rd. (Sain Rd.) (34.272912°N, 95.875530° W); 8 March 2013; (4) burrow excavation. **Choctaw Co.**, Fort Towson historic site off US 70 (34.025801° N, 95.258803° W); 1 March 2013; (1) burrow excavation. **Pushmataha Co.**, 17 km E Rattan, St. Hwy. 3 (34.186536° N, 95.216083° W); 8 March 2013; (9) burrow excavation; 8 March- 25 April 2013 (2) pitfall trap. This beetle has been previously reported from Latimer and Payne Counties (Gordon and Skelley 2007).

We collected two species of Histeridae and five species of Scarabaeidae. One species of Histeridae, *Onthophilus kirni*, and one species of Scarabaeidae, *Cryptoscatomaseter acuminatus*, represent new state records. All collections of beetles represent new county records. Further sampling in Oklahoma should elucidate further distributional records and potentially additional obligate Coleoptera species.

ACKNOWLEDGMENTS

We thank Paul Skelley (scarab beetles) and Alexey Tishechkin (hister beetles) for

identification and expert curatorial assistance. We also thank James T. and Nikolas H. McAllister for assistance in collecting. The Oklahoma Department of Wildlife Conservation provided scientific collecting permit No. 5498 to CTM.

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Received: July 15th, 2013, Accepted: November 3rd, 2013

