

**TABLE 1.** Comparative dental measurements (mm) of Dunera sciurid and other *Tamias* specimens.

Taxon	Locality	Elements (n=sample size)	Mean length (range) in mm	Mean width (range) in mm	Mean width/ length	Square root of width* length	Age	Reference
<i>Tamias cf. eviensis</i>	Yapıntı, Turkey	M1/2 (n=1)	1.73	2.1	1.21	1.91	Early Miocene	Bosma et al. 2018
<i>Tamias cf. eviensis</i>	Yapıntı, Turkey	M1/2 (n=1)	1.72	2.05	1.19	1.88	Early Miocene	Bosma et al. 2018
<i>Tamias anatoliensis</i>	Altıntaş 1, Turkey	M1/2 (n=34)	1.53 (1.41-1.68)	1.93 (1.75-2.06)	1.26	1.72	Late Miocene	Bosma et al. 2013
<i>Tamias anatoliensis</i>	Altıntaş 2, Turkey	M1/2 (n=16)	1.53 (1.45-1.62)	1.92 (1.82-2.11)	1.25	1.71	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Maramena, Turkey	M1/2 (n=9)	1.56 (1.50-1.60)	1.98 (1.92-2.07)	1.27	1.76	Late Miocene	Bosma et al. 2013
<i>Tamias cf. eviensis</i>	Karaozu, Turkey	M1/2 (n=1)	1.46	1.81	1.24	1.63	Late Miocene	Bosma et al. 2013
<i>Tamias cf. eviensis</i>	Karaozu, Turkey	M1/2 (n=1)	1.51	1.87	1.24	1.68	Late Miocene	Bosma et al. 2013
<i>Tamias cf. eviensis</i>	Hayranlı 1, Turkey	M1/2 (n=1)	1.56	1.82	1.17	1.68	Late Miocene	Bosma et al. 2013
<i>Tamias cf. eviensis</i>	Hayranlı 1, Turkey	M1/2 (n=1)	1.49	1.8	1.21	1.64	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	M1/2 (n=1)	1.59	1.82	1.14	1.70	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	M1/2 (n=1)	1.54	1.94	1.26	1.73	Late Miocene	Bosma et al. 2013
<i>Tamias urialis</i>	Daud Khel, Pakistan	M1/2 (n=13)	1.35 (1.26-1.44)	1.71 (1.48-1.80)	1.27	1.52	Middle Miocene	Munthe, 1980
<i>Tamias aff. atsali</i>	Suleymanlı 2, Turkey	M1/2 (n=1)	1.41	1.84	1.30	1.61	Late Miocene	Bosma et al. 2013
<i>Tamias urialis</i>	Jalalpur, Pakistan	M1/2 (n=1)	1.5	1.8	1.20	1.64	Late Miocene	Cheema et al. 2000
<i>Tamias urialis</i>	Dehari, Jammu (India)	M1/2 (n=1)	1.3	1.42	1.09	1.36	Middle Miocene	Parmar et al. 2018
Sciurinae gen. et sp. indet.	Jalalpur, Pakistan	M1/2 (n=1)	1.75	2.3	1.31	2.01	Late Miocene	Cheema et al. 2000
<i>Tamias gilaharee</i>	Tappar, Kutch, India	M1/2 (n=1)	1.65	2.1	1.27	1.86	Late Miocene	Patnaik et al. 2022
<i>Tamias urialis</i>	Banda daud Shah (H-GSP 107)	M1/2 (n=1)	1.55	1.88	1.21	1.71	Middle Miocene	Wessels et al. 1982
<i>Tamias urialis</i>	Banda daud Shah (H-GSP 107)	M1/2 (n=1)	1.48	1.92	1.30	1.69	Middle Miocene	Wessels et al. 1982
<i>Tamias urialis</i>	Banda daud Shah (H-GSP 107)	M1/2 (n=1)	1.57	1.76	1.12	1.66	Middle Miocene	Wessels et al. 1982
Sciurinae gen. et sp. indet.	Banda daud Shah (H-GSP 107)	M1 (n=1)	1.81	2.5	1.38	2.13	Middle Miocene	Wessels et al. 1982
cf. <i>Tamias urialis</i> (WIMF/A 4731 )	Dunera, Punjab, India	M1/M2 (n=1)	1.54	1.87	1.21	1.70	Middle Miocene	This study
<i>Tamias anatoliensis</i>	Altıntaş 1, Turkey	m1 (n=14)	1.54 (1.42-1.65)	1.63 (1.47-1.75)	1.06	1.58	Late Miocene	Bosma et al. 2013
<i>Tamias anatoliensis</i>	Altıntaş 2, Turkey	m1 (n=11)	1.63 (1.53-1.73)	1.64 (1.55-1.74)	1.01	1.63	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Maramena, Turkey	m1 (n=7)	1.70 (1.58-1.87)	1.67 (1.54-1.82)	0.98	1.68	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	m1 (n=1)	1.84	1.83	0.99	1.83	Late Miocene	Bosma et al. 2013

Taxon	Locality	Elements (n=sample size)	Mean length (range) in mm	Mean width (range) in mm	Mean width/ length	Square root of width* length	Age	Reference
<i>Tamias atsali</i>	Kangal 1, Turkey	m1 (n=1)	1.72	1.61	0.94	1.66	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	m1 (n=1)	1.49	1.57	1.05	1.53	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	m1 (n=1)	1.61	1.64	1.02	1.62	Late Miocene	Bosma et al. 2013
<i>Tamias aff. atsali</i>	Suleymanli 2, Turkey	m1 (n=1)	1.58	1.44	0.91	1.51	Late Miocene	Bosma et al. 2013
<i>Tamias aff. atsali</i>	Suleymanli 2, Turkey	m1 (n=1)	1.53	1.49	0.97	1.51	Late Miocene	Bosma et al. 2013
<i>Tamias gilaharee</i>	Kutch	m1 (n=1)	1.8	1.7	0.94	1.75	Late Miocene	Patnaik et al. 2022
<i>Tamias anatoliensis</i>	Altintas 1, Turkey	m2 (n=16)	1.73 (1.47-1.88)	1.77 (1.67-1.90)	1.02	1.75	Late Miocene	Bosma et al. 2013
<i>Tamias anatoliensis</i>	Altintas 2, Turkey	m2 (n=12)	1.73 (1.51-1.91)	1.76 (1.55-1.94)	1.02	1.74	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Maramena, Turkey	m2 (n=8)	1.72 (1.54-1.86)	1.81 (1.62-1.90)	1.05	1.76	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	m2 (n=1)	1.71	1.82	1.06	1.76	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	m2 (n=1)	1.85	1.9	1.03	1.87	Late Miocene	Bosma et al. 2013
<i>Tamias atsali</i>	Kangal 1, Turkey	m2 (n=1)	1.51	1.53	1.01	1.52	Late Miocene	Bosma et al. 2013
<i>Tamias aff. atsali</i>	Suleymanli 2, Turkey	m2 (n=1)	1.76	1.72	0.98	1.74	Late Miocene	Bosma et al. 2013
<i>Tamias gilaharee</i>	Kutch	m2 (n=1)	1.57	1.63	1.04	1.60	Late Miocene	Patnaik et al. 2022
<i>Tamias gilaharee</i>	Kutch	m2 (n=1)	1.6	1.45	0.91	1.52	Late Miocene	Patnaik et al. 2022
<i>Tamias cf. eviensis</i>	Yapinti, Turkey	m2 (n=1)	2.08	2.13	1.02	2.10	Early Miocene	Bosma et al. 2018
<i>Tamias cf. eviensis</i>	Yapinti, Turkey	m2 (n=1)	1.85	1.91	1.03	1.88	Early Miocene	Bosma et al. 2018
<i>Tamias cf. eviensis</i>	Yapinti, Turkey	m2 (n=1)	1.91	2.11	1.10	2.01	Early Miocene	Bosma et al. 2018
<i>Tamias urialis</i>	Daud Khel, Pakistan	m1/2 (n=13)	1.42 (1.28-1.56)	1.62 (1.40-1.84)	1.14	1.52	Middle Miocene	Munthe, 1980
<i>Tamias urialis</i>	Banda daud Shah (H-GSP 107)	m1/2 (n=1)	1.68	1.96	1.17	1.81	Middle Miocene	Wessels et al. 1982
<i>Tamias urialis</i>	Banda daud Shah (H-GSP 107)	m1/2 (n=1)	1.56	1.67	1.07	1.61	Middle Miocene	Wessels et al. 1982
<i>Tamias urialis</i>	Banda daud Shah (H-GSP 107)	m1/2 (n=1)	1.46	1.44	0.99	1.45	Middle Miocene	Wessels et al. 1982
<i>Tamias urialis</i>	Banda daud Shah (H-GSP 107)	m1/2 (n=1)	1.55	1.67	1.08	1.61	Middle Miocene	Wessels et al. 1982
<i>Tamias urialis</i> (WIMF/A 4749)	Dunera, Punjab, India	m1/m2 (n=1)	1.41	1.5	1.06	1.45	Middle Miocene	This study

**TABLE 2.** Comparison of Dunera *Democricetodon* with other *Democricetodon* from Siwaliks and Asia.

Taxon	Locality	Elements (n=sample size)	Mean length (range) in mm	Mean width (range) in mm	Mean width/ length	Square root of width* length	Age	Reference
<i>Democricetodon fejfari</i>	Tappar, Kutch, India	m1 (n=2)	1.88	1.98	1.05	1.93	Late Miocene (11- 10 Ma)	Patnaik et al., 2022
<i>Democricetodon suensis</i>	China	m1 (n=29)	1.43 (1.25-1.60)	1.05 (0.90-1.15)	0.73	1.23	Early Miocene	Zhu-Ding, 2010
<i>Democricetodon sui</i>	China	m1 (n=5)	1.26 (1.20-1.31)	0.84 (0.80-0.91)	0.67	1.03	Early Miocene	Maridet et al., 2011
<i>Democricetodon fejfari</i>	Pakistan	m1 (n=18)	1.89 (1.03-2.13)	1.32 (0.96-1.56)	0.70	1.58	Middle to Late Miocene (13-8.7 Ma)	Lindsay, 2017
<i>Democricetodon gracilis</i>	Germany	m1 (n=141)	1.30 (1.12-1.43)	0.91 (0.78-1)	0.70	1.09	Middle Miocene (16 Ma)	Wessels and Reumer, 2009
<i>Democricetodon mutulus</i>	Germany	m1 (n=182)	1.67 (1.48-1.86)	1.11 (0.99-1.24)	0.66	1.36	Middle Miocene (16 Ma)	Wessels and Reumer, 2009
<i>Democricetodon kohatensis</i>	Pakistan	m1 (n=3)	1.50 (1.40-1.60)	1.17 (1.15-1.20)	0.78	1.32	Late Miocene (11-10 Ma)	Cheema et al., 2000
<i>Democricetodon khani</i>	Pakistan	m1 (n=1)	1.42	1	0.70	1.19	Early Miocene (19 Ma)	Lindsay and Flynn, 2016
<i>Democricetodon</i> sp. B-C	Pakistan	m1 (n=1)	2.05	1.3	0.63	1.63	Late Miocene (11-10 Ma)	Cheema et al., 2000
<i>Democricetodon</i> sp. G	Pakistan	m1 (n=1)	1.95	1.3	0.67	1.59	Late Miocene (11- 10 Ma)	Cheema et al., 2000
<i>Democricetodon fejfari</i>	Dunera, Punjab, India	m1 (n=1)	2.3	1.37	0.60	1.78	Late Miocene (11-10 Ma)	This study
<i>Democricetodon fejfari</i>	Tappar, Kutch, India	m2 (n=7)	1.35 (1.25-1.45)	1.06 (1.00-1.13)	0.79	1.20	Late Miocene (11-10 Ma)	Patnaik et al., 2022
<i>Democricetodon suensis</i>	China	m2 (n=38)	1.36 (1.20-1.50)	1.12 (1.00-1.20)	0.82	1.23	Early Miocene	Zhu-Ding, 2010
<i>Democricetodon gracilis</i>	Germany	m2 (n=156)	1.18 (1.06-1.28)	0.98 (0.9-1.15)	0.83	1.08	Middle Miocene (16 Ma)	Wessels and Reumer, 2009
<i>Democricetodon fejfari</i>	Pakistan	m2 (n=33)	1.65 (1.14-1.88)	1.42 (0.98-1.72)	0.86	1.53	Middle to Late Miocene (13-8.7 Ma)	Lindsay, 2017
<i>Democricetodon mutulus</i>	Grmany	m2 (n=217)	1.52 (1.37-1.68)	1.24 (1.10-1.39)	0.82	1.37	Middle Miocene (16 Ma)	Wessels and Reumer, 2009
<i>Democricetodon kohatensis</i>	Pakistan	m2 (n=2)	1.42 (1.40-1.45)	1.17 (1.15-1.20)	0.82	1.29	Late Miocene (11-10 Ma)	Cheema et al., 2000
<i>Democricetodon khani</i>	Pakistan	m2 (n=1)	1.21	0.98	0.81	1.09	Early Miocene (19 Ma)	Lindsay and Flynn, 2016
<i>Democricetodon</i> sp. B-C	Pakistan	m2 (n=1)	1.7	1.6	0.94	1.65	Late Miocene (11-10 Ma)	Cheema et al., 2000
<i>Democricetodon</i> sp. G	Pakistan	m2 (n=1)	1.75	1.65	0.94	1.70	Late Miocene (11- 10 Ma)	Cheema et al., 2000
<i>Democricetodon fejfari</i>	Dunera	m2 (n=1)	1.88	1.57	0.84	1.72	Late Miocene (11-10 Ma)	This study
<i>Democricetodon gracilis</i>	Germany	M3 (n=80)	0.84 (0.70-0.94)	0.89 (0.77-0.98)	1.06	0.86	Middle Miocene (16 Ma)	Wessels and Reumer, 2009
<i>Democricetodon mutulus</i>	Germany	M3 (n=122)	1.09 (0.98-1.23)	1.13 (1.05-1.24)	1.04	1.11	Middle Miocene (16 Ma)	Wessels and Reumer, 2009

Taxon	Locality	Elements (n=sample size)	Mean length (range) in mm	Mean width (range) in mm	Mean width/ length	Square root of width* length	Age	Reference
<i>Democricetodon khani</i>	Pakistan	M3 (n=1)	0.95	1.09	1.15	1.02	Early Miocene (19 Ma)	Lindsay and Flynn, 2016
<i>Democricetodon suensis</i>	China	M3 (n=11)	1.06 (1.00-1.15)	1.08 (1.00-1.15)	1.02	1.07	Early Miocene	Zhu-Ding, 2010
<i>Democricetodon sui</i>	China	M3 (n=1)	0.68	0.93	1.37	0.80	Early Miocene	Maridet et al., 2011
<i>Democricetodon fejfari</i>	Pakistan	M3 (n=3)	1.55 (1.30-2.03)	1.43 (1.40-1.47)	0.92	1.49	Middle to Late Miocene (13-8.7 Ma)	Lindsay, 2017
<i>Democricetodon fejfari</i>	Tappar, Kutch, India	M3 (n=1)	0.99	1	1.01	0.99	Late Miocene (11-10 ma)	Patnaik et al., 2022
<i>Democricetodon kohatensis</i>	Pakistan	M3 (n=1)	1.05	1.15	1.10	1.10	Late Miocene (11-10 Ma)	Cheema et al., 2000
<i>Democricetodon</i> sp. B-C	Pakistan	M3 (n=1)	1.2	1.35	1.13	1.27	Late Miocene (11-10 Ma)	Cheema et al., 2000
<i>Democricetodon</i> sp. G	Pakistan	M3 (n=2)	1.32 (1.30-1.35)	1.47 (1.45-1.50)	1.11	1.39	Late Miocene (11-10 Ma)	Cheema et al., 2000
<i>Democricetodon fejfari</i>	Dunera, Punjab, India	M3 (n=2)	1.4 (1.33-1.47)	1.41 (1.34-1.49)	1.01	1.40	Late Miocene (11-10 Ma)	This study

**TABLE 3.** Comparative dental measurements (mm) of Dunera *Sayimys* and other *Sayimys* specimens from Indian subcontinent.

Taxon	Locality	Elements (sample size)	Mean length (range) in mm	Mean width (range) in mm	Mean width/length	Square root of width* Length	Mean ant./mean Post.	Geological Formation	Reference
<i>Sayimys sivalensis</i> (including <i>S. chinjiensis</i> )	Potwar Plateau, Pakistan	M1/M2 (L=55; W=53,55)	1.94 (1.60-2.52)	Ant: 2.05 (1.65-2.65) Post: 1.91 (1.50-2.45)	1.06	1.99	1.07	Kamlial, Chinji, and Nagri	Baskin, 1996; López-Antoñanzas & Sen, 2003
<i>Sayimys sivalensis</i> (including <i>S. chinjiensis</i> )	Potwar Plateau, Pakistan	M3 (L=12; W=11,12)	2.25 (1.72-2.52)	Ant: 2.47 (2.08-2.80) Post: 2.08 (1.55-2.40)	1.10	2.36	1.19	Kamlial, Chinji, and Nagri	Baskin, 1996
<i>Sayimys sivalensis</i>	Daud Khel, Potwar Plateau, Pakistan	M1 (L=29; W=29,29)	2.08 (1.84-2.24)	Ant: 2.02 (1.68-2.36) Post: 1.92 (1.68-2.20)	0.97	2.05	1.05	Chinji	Munthe, 1980
<i>Sayimys sivalensis</i>	Daud Khel, Potwar Plateau, Pakistan	M2 (L=31; W=31,31)	2.33 (1.96-2.60)	Ant: 2.46 (2.12-2.80) Post: 2.20 (1.92-2.56)	1.06	2.39	1.12	Chinji	Munthe, 1980
<i>Sayimys sivalensis</i>	Daud Khel, Potwar Plateau, Pakistan	M3 (L=21; W=21,21)	2.28 (1.96-2.64)	Ant: 2.50 (2.28-2.72) Post: 1.77 (1.56-1.96)	1.10	2.39	1.41	Chinji	Munthe, 1980
<i>Sayimys sivalensis</i>	Dunera (Punjab), India	M3	2.48	Ant: 2.83 Post: 2.35	1.14	2.65	1.20	Nagri Age	This study
<i>Sayimys sivalensis</i>	Dunera (Punjab), India	M1/M2	2.44 (2.4-2.48)	Ant: 2.44 (2.35-2.53) Post: 2.20 (2.20-2.21)	1.00	2.44	1.11	Nagri Age	This study
<i>Sayimys sivalensis</i> WIMF/A 4695	Ramnagar (Dehari 2), India	M2 or M3	2.25	Ant: 2.41 Post: 2.02	1.07	2.33	1.19	Chinji	Sehgal et al. 2022
<i>Sayimys sivalensis</i> PUCT5	Kutch	M1/M2	1.8	Ant: 2.00 Post: 1.82	1.11	1.90	1.10	Late Miocene (=Nagri)	Patnaik et al. 2022
<i>Sayimys sivalensis</i> PUCT 4	Kutch	M3	2.15	Ant: 2.25 Post: 1.54	1.05	2.20	1.46	Late Miocene (=Nagri)	Patnaik et al. 2022
<i>Sayimys</i> cf. <i>S. intermedius</i>	Zinda Pir Dome and Potwar Plateau, Pakistan	M1/M2 (L=6; W=4,5)	1.97 (1.78-2.22)	Ant: 2.15 (2.10-2.20) Post: 1.94 (1.82-2.08)	1.09	2.06	1.11	Vihowa and Kamlial	Baskin, 1996
<i>Sayimys</i> cf. <i>S. intermedius</i>	Zinda Pir Dome, Vihowa Fm. and Kamlial Fm., Potwar Plateau, Pakistan	M3 (L=2; W=2,4)	1.96 (1.80-2.12)	Ant: 2.04 (1.95-2.12) Post: 1.68 (1.60-1.75)	1.04	2.00	1.22	Vihowa and Kamlial	Baskin, 1996
<i>Sayimysbaskini</i> (= <i>Sayimys</i> cf. <i>S. minor</i> )	YGSP721, Potwar Plateau, Pakistan	M1/M2 (L=7; W=5,5)	1.52 (1.32-1.62)	Ant: 1.49 (1.32-1.60) Post: 1.46 (1.30-1.55)	0.98	1.50	1.02	Kamlial	Baskin, 1996
<i>Sayimysbaskini</i> (= <i>Sayimys</i> cf. <i>S. minor</i> )	YGSP721 Pakistan	M3 (L=X; W=X,1)	-	Post: 1.62	-	-	-	Kamlial	Baskin, 1996
<i>Sayimysbaskini</i> (= <i>Sayimys</i> cf. <i>S. minor</i> )	YGSP747 Pakistan	M1/M2 (L=9; W=7,6)	1.69 (1.57-1.85)	Ant: 1.94 (1.60-2.25) Post: 1.73 (1.57-2.13)	1.15	1.81	1.12	Kamlial	Baskin, 1996
<i>Sayimysbaskini</i> (= <i>Sayimys</i> cf. <i>S. minor</i> )	YGSP747 Pakistan	M3 (L=1; W=1,1)	1.75	Ant: 2.00 Post: 1.85	1.14	1.87	1.08	Kamlial	Baskin, 1996
<i>Sayamis sivalensis</i>	Dunera (Punjab), India	m1/m2	2.43	Ant: 2.06 Post: 2.04	0.85	2.24	1.01	Nagri Age	This study

Taxon	Locality	Elements (sample size)	Mean length (range) in mm	Mean width (range) in mm	Mean width/ length	Square root of width* Length	Mean ant./ mean Post.	Geological Formation	Reference
<i>Sayimys sivalensis</i> PUCT 7	Tappar, Kutch, India	m1/m2	2.05	Post: 1.7	0.83	1.87	—	Late Miocene (=Nagri)	Patnaik et al. 2022
<i>Sayimys sivalensis</i> (including <i>S. chinjiensis</i> )	Potwar Plateau, Pakistan	m1/m2 (L=21; W=27,22)	2.15 (1.78-2.50)	Ant: 1.85 (1.38-2.50) Post: 1.79 (1.42-2.18)	0.86	1.99	1.03	Kamlial, Chinji, and Nagri	Baskin, 1996; Lopez Antonanzas & Sen, 2003
<i>Sayimys sivalensis</i>	Daud Khel, Potwar Plateau, Pakistan	m1 (L=33, W=33,33)	2.24 (2.00-2.60)	Ant: 1.90 (1.56-2.08) Post: 1.85 (1.60-2.08)	0.85	2.06	1.03	Chinji	Munthe, 1980
<i>Sayimys sivalensis</i>	Daud Khel, Potwar Plateau, Pakistan	m2 (L=28, W=28,28)	2.61 (2.32-2.80)	Ant: 2.48 (2.24-2.64) Post: 2.20 (1.80-2.68)	0.95	2.54	1.13	Chinji	Munthe, 1980
<i>Sayimysbaskini</i> (= <i>Sayimys</i> cf. <i>S. minor</i> )	YGSP721 Pakistan	m1/m2 (L=1; W=1,1)	1.65 (1.45-1.45)	Ant: 1.45 Post: 1.45	0.88	1.55	1.00	Kamlial	Baskin, 1996
<i>Sayimysbaskini</i> (= <i>Sayimys</i> cf. <i>S. minor</i> )	YGSP747 Pakistan	m1/m2 (L=13; W=12,16)	2.02 (1.57-2.37)	Ant: 1.81 (1.50-2.07) Post: 1.72 (1.43-2.15)	0.90	1.91	1.05	Kamlial	Baskin, 1996
<i>Sayimys</i> cf. <i>S. intermedius</i>	Zinda Pir Dome and Potwar Plateau, Pakistan	m1/m2 (L=3; W=3,4)	1.95 (1.78-2.12)	Ant: 1.60 (1.50-1.75) Post: 1.61 (1.45-1.75)	0.82	1.77	0.99	Vihowa and Kamlial	Baskin, 1996