

KEY TO SPECIES OF SMINTHOPSIS

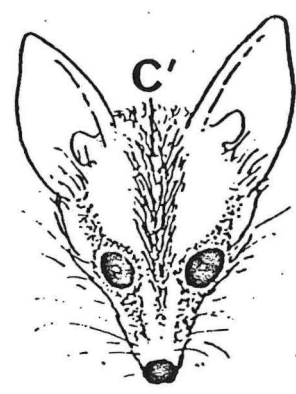
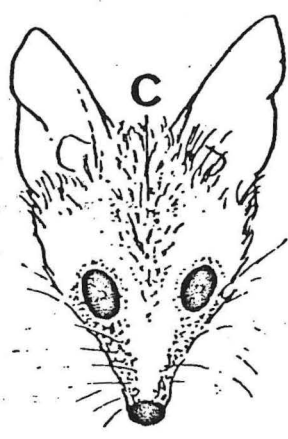
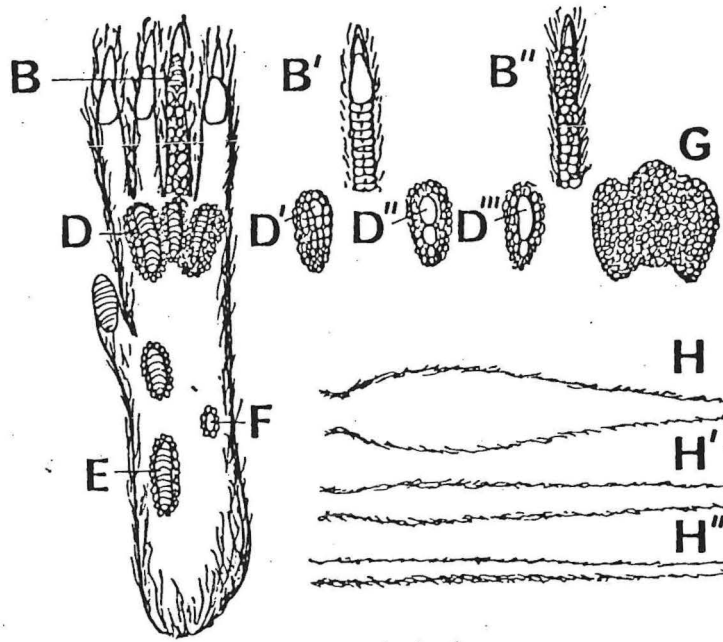
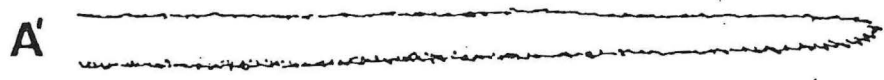
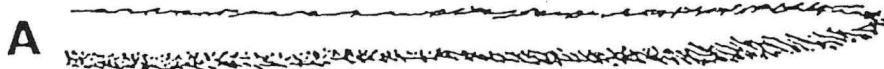
I intend this key to provide a simple means for identifying species. It is in two parts, one based on external characters and one on cranial and dental characters. After an identification is obtained, the specimen should be compared with the appropriate diagnosis, description, and tables of measurements. Alphabetical references refer to figures 7 and 8.

Figs 7-8

EXTERNAL CHARACTERS

- 1. a. Tail with terminal black brush; only four toes on hind foot S. (Antechinomys) laniger (page)
- b. Tail without terminal black brush; five toes on hind foot 2
- 2. a. Tail bi-colored with well developed terminal black crest (A) S. (S.) psammophila (~~Pl.~~ ^{Fig 53})
- b. Tail without terminal black crest (A) 3
- 3. a. Terminal pads of hind toes granular (B'') 4
- b. Terminal pads of hind toes smooth (B') or striate (B) 5
- 4. a. Incrassated tail (H) much shorter than head and body; lacks head stripe (C) S. (S.) granulipes (~~Pl.~~ ^{Fig. 28})
- b. Incrassated tail (H) not necessarily much shorter than head and body; has head stripe (C') S. (S.) hirtipes (~~Pl.~~ ^{Fig. 17})
- 5. a. Apical granules of interdigital pads long, clearly striated (D); tail thin 6
- b. Apical granules of interdigital pads normally not clearly striated (D' - D'') 7

in

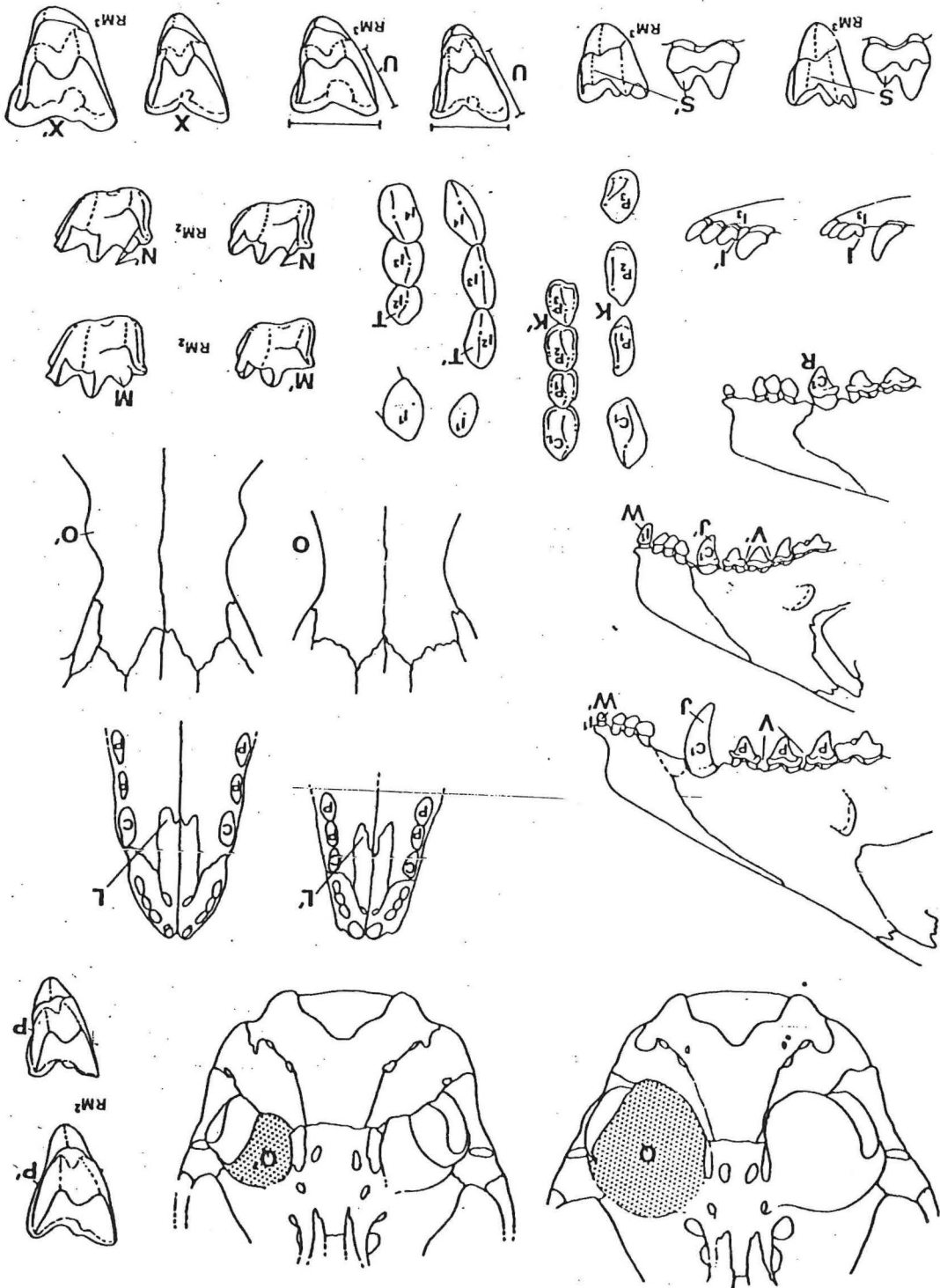


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Fig. 7.

Fig. 8

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- 6. a. Tail twice length head and body; large post-hallucal granule present (E) S. (S.) longicaudata (~~Pl.~~ ^{Fig. 53})
- b. Tail less than twice length of head and body; normally no post-hallucal pads present. S. (S.) leucopus (~~Pl.~~ ^{Fig. 13})
- 7. a. Rufous cheeks; size of Antechinus; head stripe present (C') 8
- b. No rufous cheeks; generally smaller than Antechinus 9
- 8. a. Tail thin (H); large animal (mean nose-vent length of adults 100 mm); metatarsal granule sometimes present (F) S. (S.) virginiae (~~Pl.~~ ^{Fig. 32})
- b. Tail moderately incrassated (H'); very large animal (no intact fresh adults so no N.V. figures but larger than 7a); no enlarged metatarsal granule S. (S.) douglasi (~~Pl.~~ ^{Fig. 32})
- 9. a. Tail thin (H'') 10
- b. Tail incrassated (H) 12
- 10. a. Very small (Planigale-size); tail much longer than head and body S. (S.) ooldea (~~Pl.~~ ^{Fig. 13})
- b. Medium-size; tail length variable 11
- 11. a. Vague head stripe present and pale; head convexly domed dorsally (~~see Pl.~~) S. (S.) butleri (~~Pl.~~ ^{Fig. 44})
- b. Dark patch sometimes present but not stripe (C); head not conspicuously domed (~~see Pl.~~); medial row of slightly enlarged apical granules (D') S. (S.) murina (~~Pl.~~ ^{Fig. 13})

12. a. Head stripe present and clear (C'); enlarged oval or round apical granule on interdigital pads (D'' - D''') S. (S.) macrourea (~~Fig. 40~~ Fig. 40)
- b. No head stripe; no markedly enlarged apical granule (D' or G) 13
13. a. Interdigital pads fused (G); dark head patch (C); buff areas of body pelage; tail shorter than head and body; interdigital pads fused (G) S. (S.) crassicaudata (~~Fig. 53~~ Fig. 53)
- b. Interdigital pads not fused or joined only at base; no dark head patch; dark body; tail longer than head and body S. (S.) ooldea (~~Fig. 13~~ Fig. 13)

CRANIAL AND DENTAL CHARACTERS

1. a. I₃ markedly bifid with large posterior lobe (I); I¹ very small (W'); C¹ very large (J); premolars spaced (V) and very narrow (K); anterior palatal vacuities do not extend posterior to C¹ alveolus (L) S. (S.) granulipes (~~Fig. 25~~ Fig. 25)
- b. I₃ barely bifid (I'); other characters vary 2
2. a. Large entoconids M₁₋₃ (M) 3
- b. Tiny to absent entoconids M₁₋₃ (M') 6
3. a. Premaxillary vacuities extend posteriorly well beyond C¹ alveolus (L'); hypocristid contacts entoconid M₃ (N) S. (S.) crassicaudata (~~Fig. 50~~ Fig. 50)
- b. Premaxillary vacuities short (L); hypocristid clearly separate from entoconid M₃ (N') 4 (4 - 5) require confirmation of skin and size characters, see Tables 1, 2)

4. a. Medium-sized species (see Tables 1-2); no post-orbital processes on frontals (O); C1 not grossly enlarged (J'); premolars much longer than wide (K); no continuous anterior cingulum upper molars (P) S. (S.) macroura (Fig. 37)
- b. Large species (see Tables 1-2); presence of post-orbital processes (O') variable; C1 large (J); premolars very broad (K') presence of anterior cingulum upper molars (P') variable 5
5. a. Commonly anterior cingulum present on upper molars (P'); commonly post-orbital processes present on frontals (O'); smaller than 5b S. (S.) virginiae (Fig. 31)
- b. No known specimens have post-orbital processes (O) or anterior cingula on upper molars (P); larger than 5a S. (S.) douglasi (Fig. 35)
6. a. Premaxillary vacuities extend posterior ^{beyond the} ~~to~~ level of C¹ alveolus (L') 7
- b. Premaxillary vacuities do not extend posterior to level of C¹ alveolus (L) S. (S.) hirtipes (Fig. 46)
7. a. Alisphenoid tympanic wing enlarged (Q); C¹ premolariform (R) 8
- b. Alisphenoid tympanic wing not markedly enlarged (Q'); C¹ development varies 9
8. a. Upper molars wide relative to length (U); anterior border of ascending ramus tall and subparallel to posterior border of dentary....S. (Antechinomys) laniger (Archer 1977)
- b. Upper molars relatively narrow (U'); anterior border of ascending ramus and posterior border of dentary divergent Sminthopsis (S.) longicaudata (Fig. 23)

9. a. Planigale maculata size; paracone reduced (S); ^{lower} premolars very wide (K'); I² subrounded (T); I¹ large (W) S. (S.) ooldea (Fig. 20)
- b. Size larger than Planigale maculata; paracone unreduced (S'); premolars relatively narrow (K); I² elongate (T') (10 - 12 require confirmation of size and external characters, see Tables 2+2).
10. a. Premolars contact antero-posteriorly (V'); M³ metacrista clearly subequal to M³ length (U); very tiny entoconids M₁₋₃ S. (S.) butleri (Fig. 42)
- b. Premolar contact varies; M³ metacrista normally much shorter than M³ length (U'); tiny to small entoconids M₁₋₃
11. a. Premolars widely spaced (V, K); I₃ mildly bilobed (but clearly less so than in S. granulipes); rostrum very elongate ~~(see Pl. 1)~~ S. (S.) murina (Fig. 12)
- b. Premolars generally contact (V'); I₃ barely or not at all bilobed (I'); rostrum not conspicuously elongate ~~(see Pl. 1)~~
12. a. Large; cranium convexly domed postero-dorsally ~~(see Pl. 1)~~; upper molars massive and swollen near base of crown (X) S. (S.) psammophila (Fig. 29)
- b. Medium sized; cranium not domed ~~(see Pl. 1)~~; upper molars long but not massive or swollen at base of crowns (X') S. (S.) leucopus (Fig. 17)