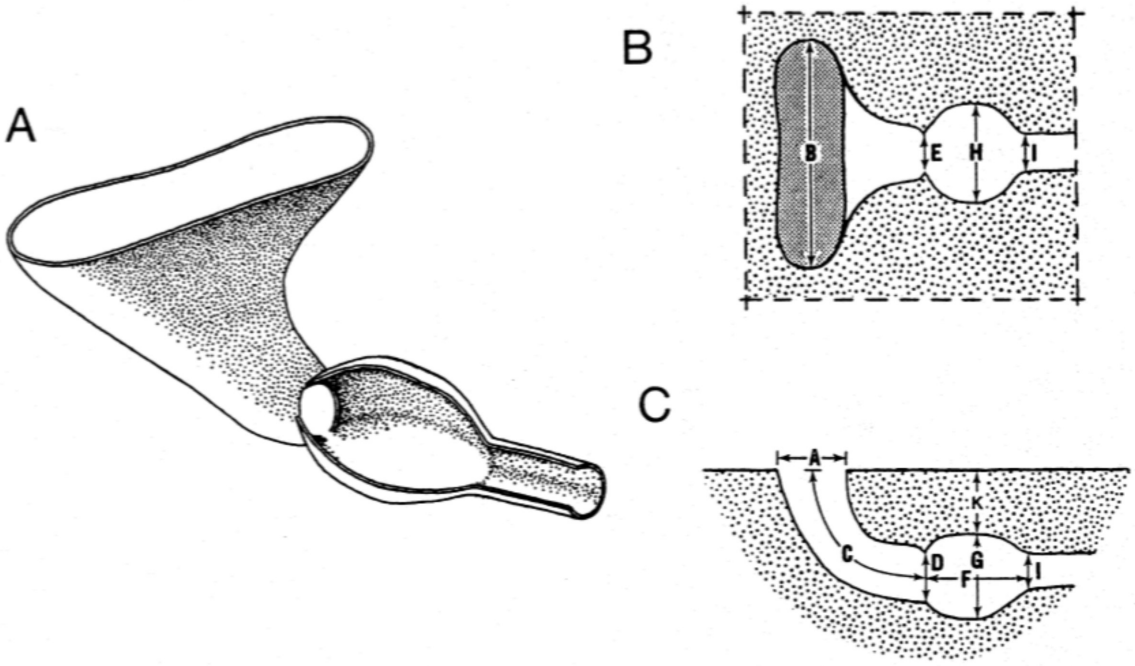

Fig. 2. Acoustical burrow of *G. major*. A. Perspective drawing of (imagined) thin latex cast of burrow, with wall of bulb and of exit tunnel cut away showing opening (to horn) that calling male fills with his body and raised forewings. B and C. Views of burrow from above and from the side showing measurements that were made from casts (see Table 2).

panded approximately exponentially and that the cricket called, tail outward, with its pronotum in the bulb and with its raised stridulating forewings filling the throat of the horn. He pointed out than an exponential horn increases the efficiency with which a small sound source (the forewings) can function. He also did calculations showing that the bulb was of appropriate volume to further improve acoustical efficiency, and that a linear horn mouth would produce a sound field with direc-

Table 2. Measurement (in mm) of casts of seven calling burrows of *G. major*, Grandfather Prairie, 12 May 1987. Letters refer to dimensions shown in Fig. 2.

	Mean ± SE	Range
Exponential horn		
A Opening, width	26 ± 1.2	22–31
B Opening, length	86 ± 4.4	75–103
C Length (estimate)	64 ± 2.0	55–70
D Throat, height	19 ± 0.7	17–22
E Throat, width	14 ± 0.6	11–15
Bulb		
F Length	39 ± 0.8	36–41
G Height[a]	33 ± 1.2	29–37
H Width	37 ± 1.4	32–42
I Exit, height[b]	14 ± 0.4	13–15
J Exit, width[a]	14 ± 0.5	13–16
K Roof-to-surface (estimate)	19 ± 5	3–35

[a] $n = 6$ (one cast incomplete).
[b] $n = 5$ (two casts incomplete).