Errata for:

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Supplemental materials

Impact of the error

    Correcting the perimeter formula had little to no impact on the arguments in the paper. Perimeter was one of several lines of evidence used to classify points as either dart or arrow points. Use of the wrong formula did not affect any of the other lines. Further, as a review of corrected Tables 5 and 7 shows, correcting the error had little or no impact on the classification of individual projectile points as darts or arrows based on perimeter and no effect on the classification of projectile point types, since these were based on the mean perimeter for each type. No points classified as arrows were reclassified as darts, and only five points classified as darts were reclassified as arrows. Their perimeter values changed from 4.1 to 4.0. The overall range of perimeter values produced by the correct formula is narrower and the median is somewhat higher (Supplement Figure 1). Values smaller than 4 became larger; values larger than 4 became smaller. Consequently, the effect of the correction was minimal around Hughes' threshold value of 4 for distinguishing arrow points from dart points.

Correcting the tables and graphs.

    Formatting of the original tables and graphs was maintained and the new values substituted. The graphs were originally prepared in a version 7 of OriginPro. The corrected versions were prepared in OriginPro 9.1, which in some cases produced minor changes in formatting. Other errors were discovered in two graphs (10d and 15d), and these were also corrected.
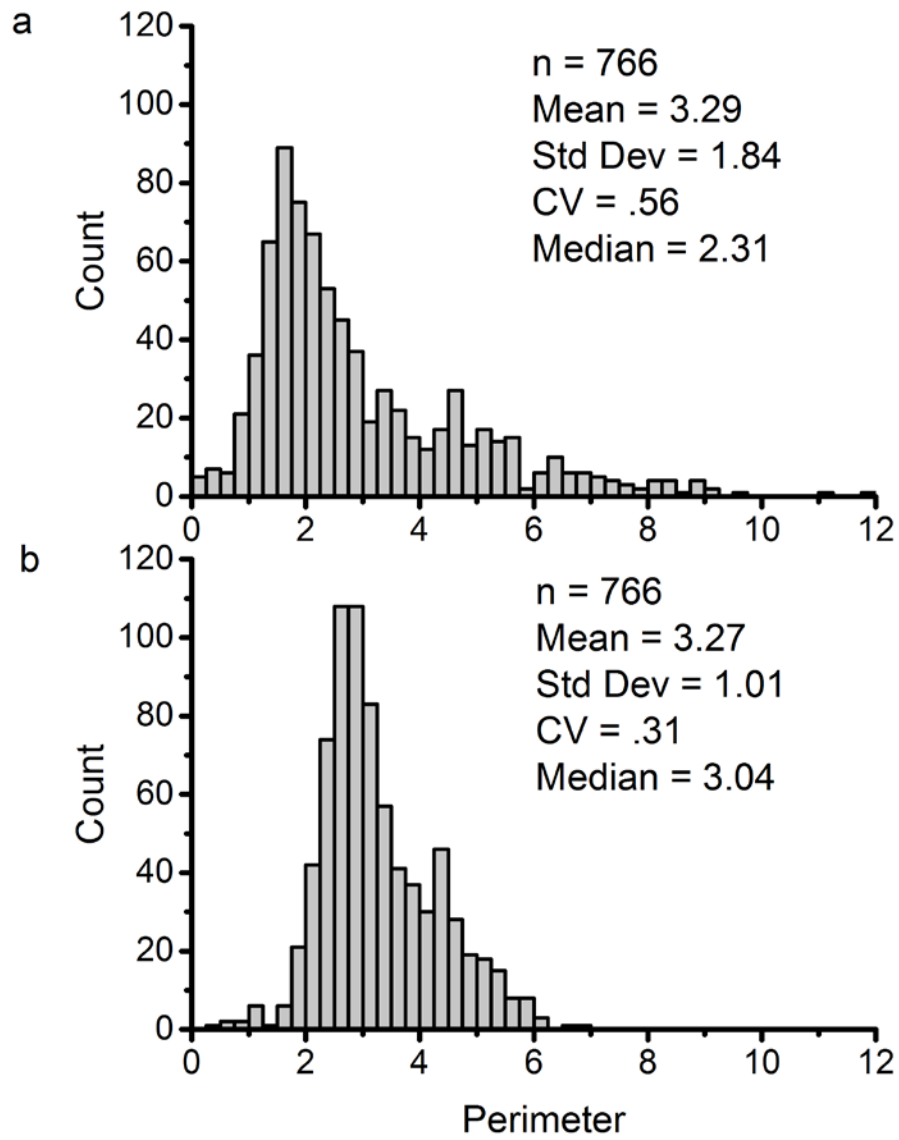
Supplemental Figure 1. Comparison of perimeter values produced by (a) incorrect and (b) correct formula using Great Basin and Hatwai projectile points.

Corrected Tables. Numbering in the original article is retained.

Table 5. Great Basin Projectile Points Dart/Arrow Assignments: Totals of Points/Type Assigned as Darts/Arrows Based on Different Classification Equations and Thresholds.

| Point Type | N | Thomas-Shott | | Bradbury | | Weight | | Neck Width | | Tip area | | Perimeter | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dart | Arrow | Dart | Arrow | Dart | Arrow | Dart | Arrow | Dart | Arrow | Dart | Arrow |
| Cottonwood | 108 | 1 | 107 | | | | 108 | | NA | | 108 | | 108 |
| Mean | | | X | | | | .7 | | | | .19 | | 2.6 |
| Desert SN | 189 | 1 | 188 | | 189 | | 189 | | 189 | | 189 | | 191 |
| Mean | | | X | | X | | .56 | | .56 | | .16 | | 2.6 |
| Elko CN | 284 | 240 | 44 | 246 | 12 | 198 | 85 | 206 | 78 | 186 | 91 | 222 | 61 |
| Mean | | X | | X | | 3.7 | | 11.3 | | .6 | | 4.5 | |
| Elko Eared | 95 | 77 | 18 | 76 | 7 | 73 | 22 | 73 | 22 | 63 | 24 | 74 | 20 |
| Mean | | X | | X | | 5.8 | | 13.7 | | .73 | | 4.5 | |
| Gatecliff CS | 33 | 21 | 12 | 27 | 6 | 18 | 15 | 11 | 22 | 17 | 16 | 20 | 13 |
| Mean | | X | | X | | 3.5 | | | 9.5 | .5 | | 4.2 | |
| Gatecliff SS | 34 | 29 | 5 | 30 | 2 | 23 | 11 | 27 | 7 | 23 | 10 | 27 | 7 |
| Mean | | X | | X | | 3.6 | | 11.9 | | .57 | | 4.7 | |
| Humboldt | 13 | 4 | 9 | NA | NA | 9 | 4 | NA | NA | 4 | 9 | 4 | 9 |
| Mean | | | X | | | 3.4 | | | | .46 | .46 | | 3.6 |

| LSN | 6 | 6 | | 5 | | 5 | 1 | 5 | 1 | 6 | | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | | X | | X | | 4.4 | | 13 | | .62 | | 4.7 |
| Rosegate | 97 | 37 | 60 | 29 | 68 | 5 | 92 | | 97 | 1 | 96 | 28 | 69 |
| Mean | | | X | | X | | X | | X | | .3 | | 3.6 |

Table 7. Hatwai Projectile Points: Dart/Arrow Assignments: Totals of Points/Type Assigned as Darts/Arrows Based on Different Classification Equations and Thresholds.

| | N | Thomas-Shott | | Bradbury | | Weight | | Neck Width | | Tip area | | Perimeter | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dart | Arrow | Dart | Arrow | Dart | Arrow | Dart | Arrow | Dart | Arrow | Dart | Arrow |
| Windust | 11 | 5 | 6 | 5 | 6 | 10 | 1 | 10 | | 9 | 2 | 5 | 6 |
| Mean | | | X | | X | 5.8 gm | | 13.6 | | .65 | | 4.1 | |
| Cascade | 15 | 2 | 13 | | | 9 | 6 | | | | 15 | 2 | 13 |
| Mean | | | X | | | 3.7 gm | | | | | .22 | | 3.3 |
| Columbia CN A | 32 | 7 | 25 | 12 | 16 | 7 | 25 | 9 | 23 | | 32 | 3 | 29 |
| Mean | | | X | | X | | 2.4 | | 9.4 | | .19 | | 3.3 |
| Columbia S A | 5 | | 5 | 3 | 2 | | 5 | | 5 | | 5 | | 5 |
| Mean | | | X | X | | | 1 | | 5.9 | | .09 | | 3.6 |
| Desert SN | 4 | | 4 | 1 | 3 | | 4 | | 4 | | 4 | | 4 |
| Mean | | | X | | X | | .33 | | 6.8 | | .07 | | 2.8 |
| Foliate | 9 | 1 | 8 | | | 8 | 1 | | | | 9 | 1 | 8 |
| Mean | | | X | | | 3.5 | | | | | .22 | | 3.0 |
| Hatwai Eared | 119 | 7 | 112 | 9 | 101 | 10 | 65 | 37 | 75 | 2 | 109 | 4 | 111 |
| Mean | | | X | | X | | 3 | | 9.9 | | .17 | | 2.9 |
| Nespelem Bar | 13 | 3 | 10 | 7 | 8 | 7 | 6 | 7 | 6 | | 13 | 3 | 10 |
| Mean | | | X | | X | 6.9 | | 10.7 | | | 2.6 | | 3.6 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quelomene Bar CN | 21 | 7 | 14 | 7 | 14 | 3 | 22 | 9 | 13 | 1 | 21 | 8 | 13 |
| Mean | | | X | X | | | | | 10 | | .22 | | 3.7 |
| Rabbit Island S | 14 | 1 | 13 | 3 | 11 | 2 | 12 | 1 | 11 | | 12 | 1 | 11 |
| Mean | | | X | | X | | 2.4 | | 8 | | .18 | | 3.1 |
| Hatwai Small SN | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 |
| Mean | | | X | | X | | 1.4 | | 8.5 | | 1.5 | | 2.8 |
| Hatwai Medium CN | 7 | 2 | 5 | 1 | 6 | | 7 | 5 | 2 | | 7 | 1 | 6 |
| Mean | | | X | | X | | 1.7 | 10.4 | | | .19 | | 3.7 |
| Hatwai Misc. CN | 11 | 1 | 10 | 1 | 11 | 2 | 8 | 4 | 7 | | 10 | 1 | 10 |
| Mean | | | X | | x | | 2 | | 9.7 | | .18 | | 3.2 |

Table 11. Size Measurements for the Western Great Basin, Hatwai and Lower Snake River Samples.

|  | Mean | Std. Dev | Std. Error | Median |
|---|---|---|---|---|
| WGB Weight (g) | 3.50 | 3.32 | .17 | 3.10 |
| Hatwai Weight (g) | 3.15 | 3.73 | .25 | 2.10 |
| LSR Weight (g) | 2.45 | 2.31 | .24 | 1.70 |
| WGB NeckWidth | 10.96 | 3.73 | .19 | 10.95 |
| Hatwai NeckWidth | 9.95 | 2.15 | .14 | 10.00 |
| WGB Perimeter | 4.25 | 1.56 | .08 | 4.38 |
| Hatwai Perimeter | 3.25 | 1.35 | .08 | 3.13 |
| LSR Perimeter | 3.56 | .75 | .07 | 3.57 |
| GB Tip Area | .53 | .88 | .04 | .47 |
| Hatwai Tip Area | .23 | .29 | .02 | .19 |
| LSR Tip Area | .47 | .23 | .02 | .41 |

Corrected Figures
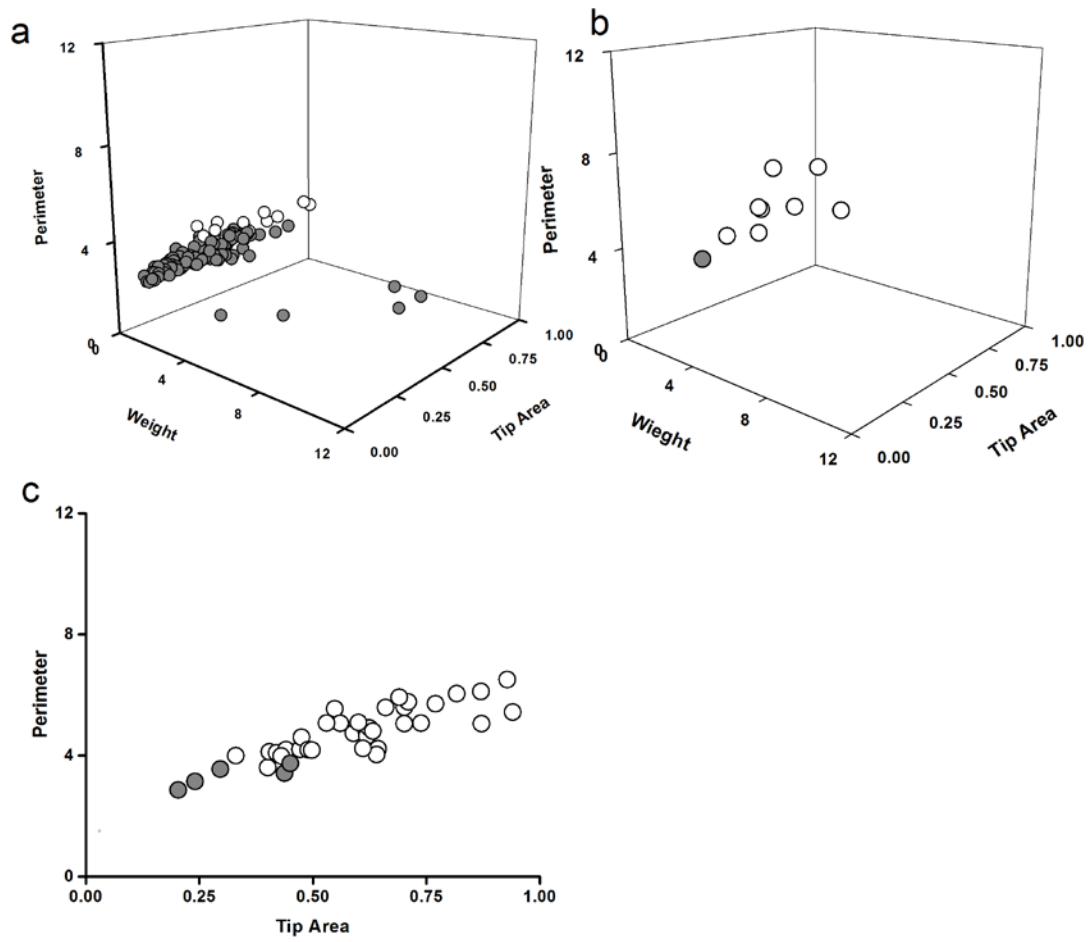


Figure 8. Size variation in Thomas's sample of (a) arrows and (b) darts (Thomas 1978) and (c) Shott's combined sample of darts (Shott 1997).
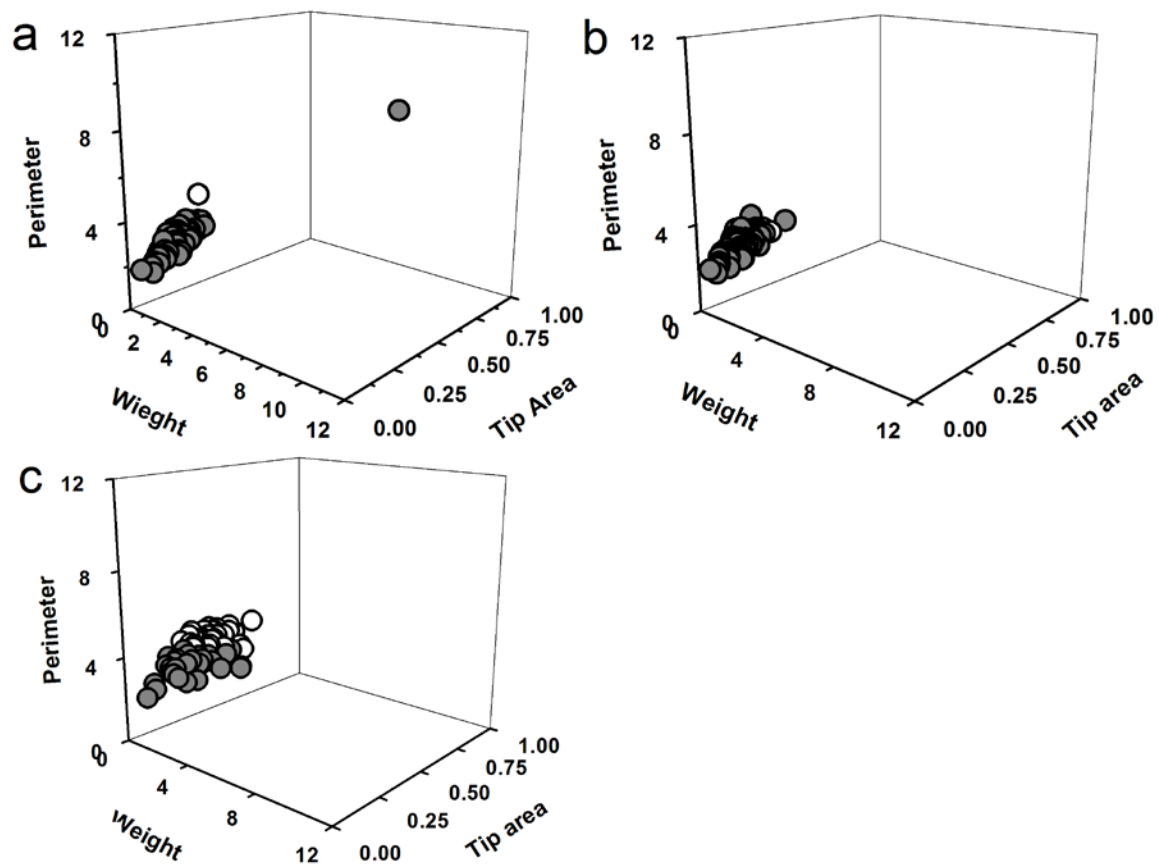
Figure 9. Size variation in Western Great Basin arrow tips: (a) Cottonwood Triangular; (b) Desert Side Notched; and (c) Rosegate.
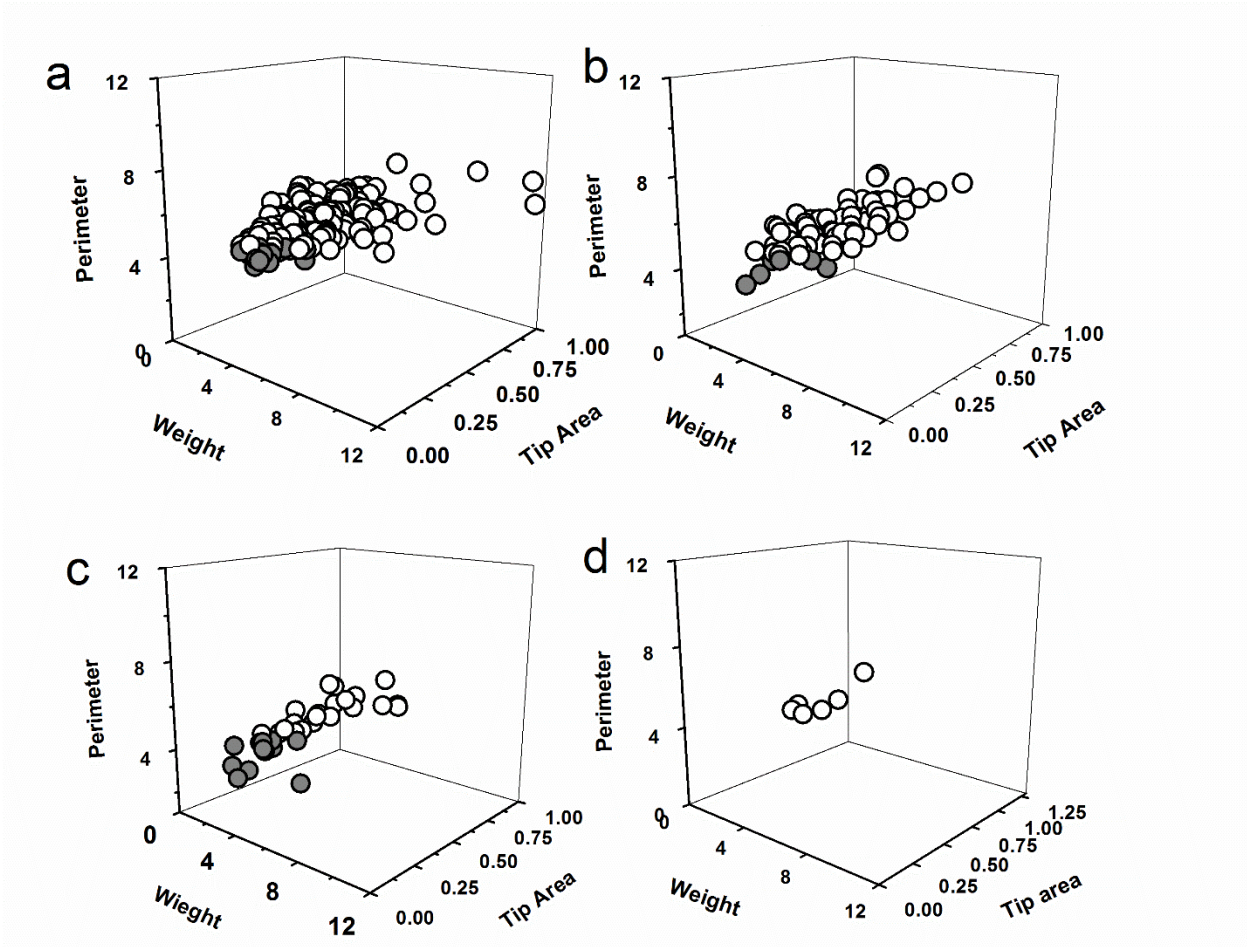
Figure 10. Size variation in Western Great Basin dart points: (a) Elko Corner Notched; (b) Elko Eared; (c) Gatecliff Contracting Stem; (d) Large Side Notch.
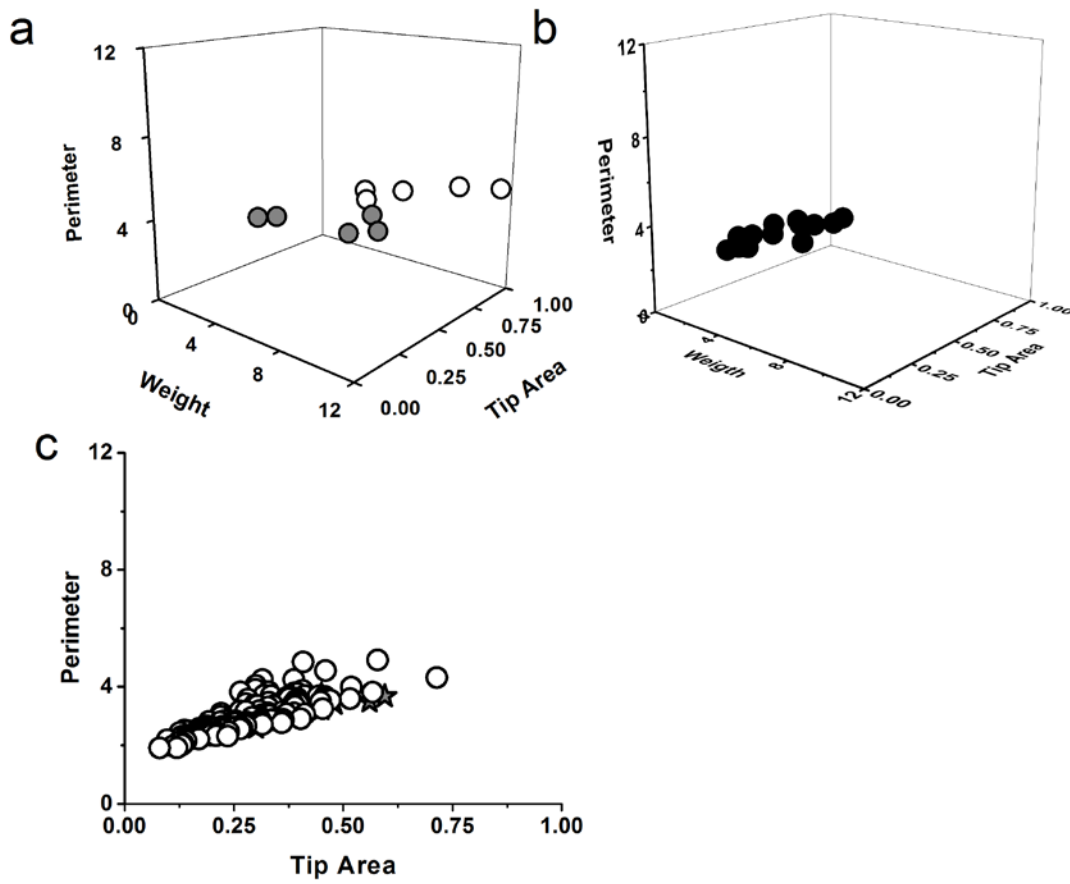
Figure 11. Size variation in (a) Windust and (b) Cascade points. Panel (c) compares Cascade points (gray stars) with the combined Thomas-Shott dart sample (Thomas 1978; Shott 1997) (open circles).
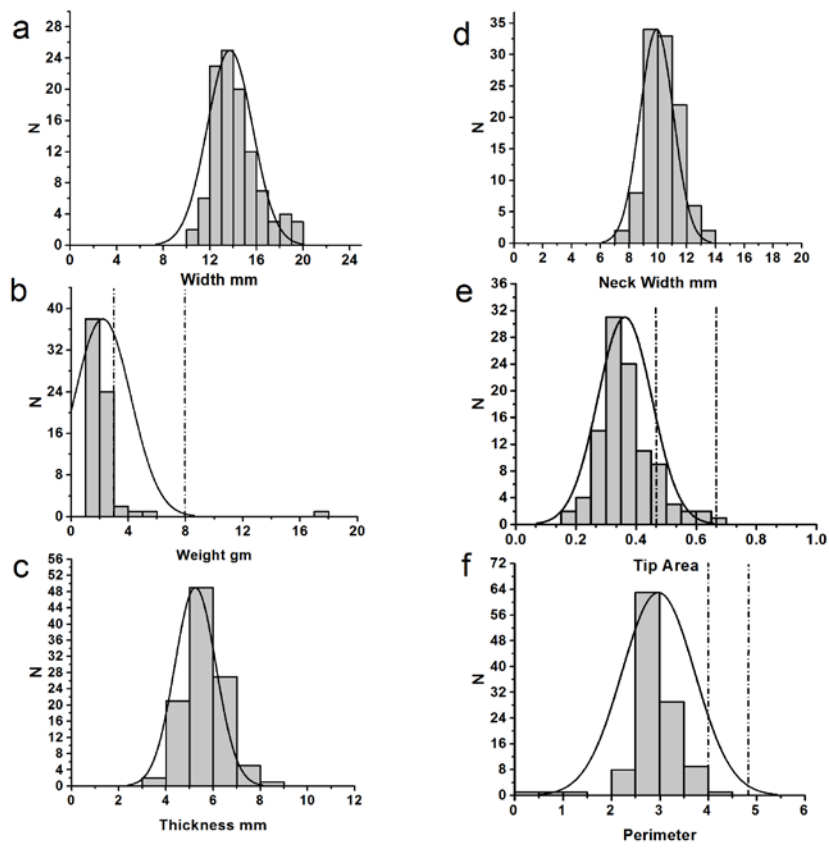
Figure 13. Hatwai Eared sub-type (a) widths; (b) weights; (c) thicknesses; (d) neck widths; (e) tip areas; and (f) perimeters. Dashed lines indicate Hughes's (1998) thresholds (Table 4).
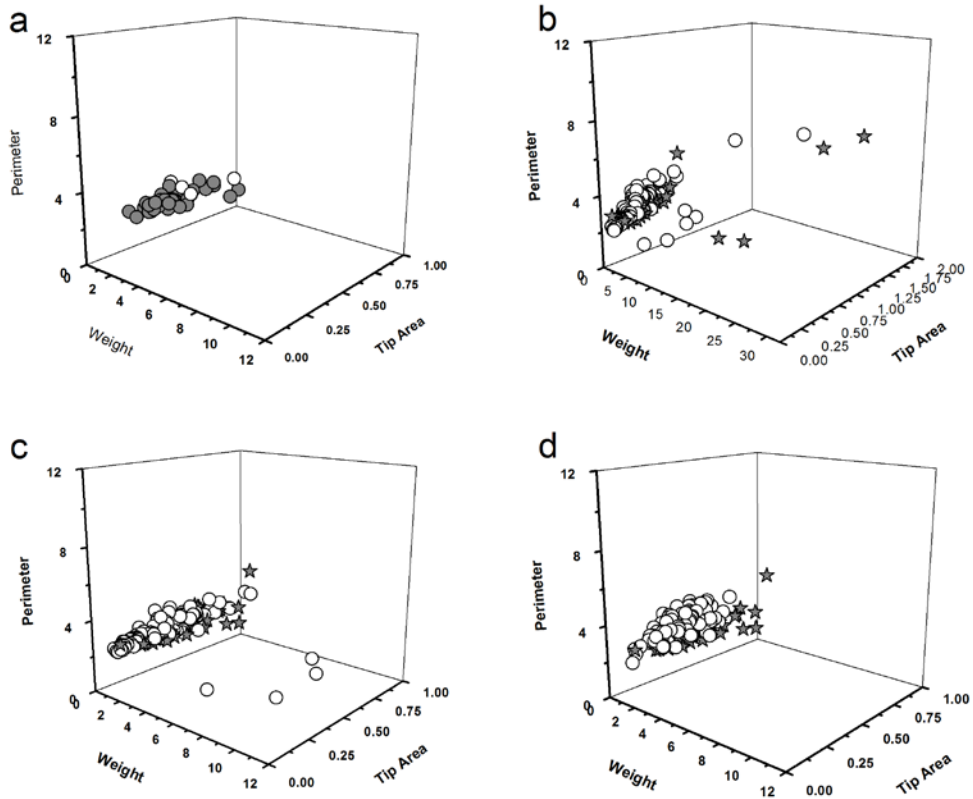
Figure 14. (a) Metric variability in Hatwai Eared Points; (b) Hatwai Eared points compared to the full size range variation in Thomas's Arrow sample (Thomas 1978); (c) Hatwai Eared points compared to the Thomas arrow sample using the standard x, y, and z axis sizes in this paper; and (d) Hatwai Eared compared to Rosegate points. In panel (a), open circles are points classed as darts and gray circles are arrows. In the other panels, gray stars are Hatwai Eared points, open circles the other points.
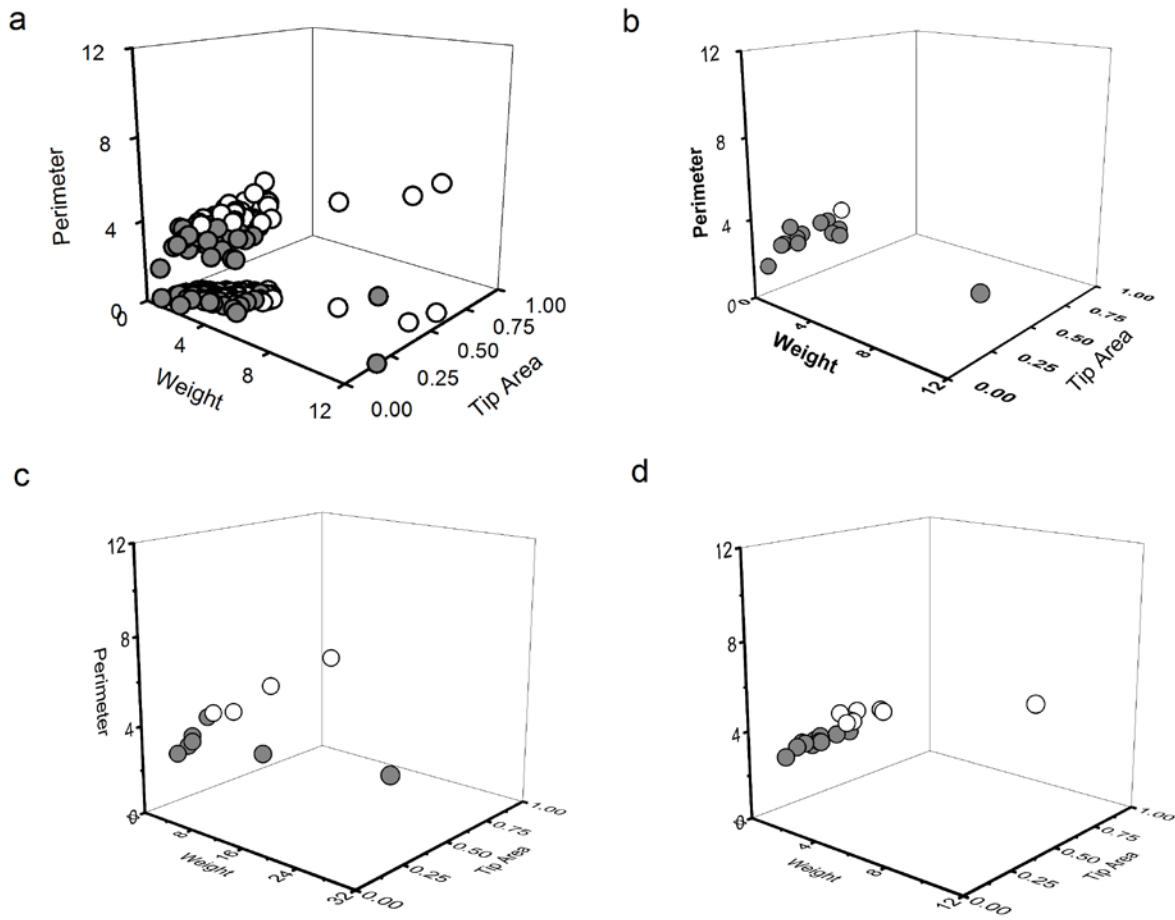
Figure 15. Metric variation in other Hatwai III point styles, including (a) all styles; (b) Rabbit Island Stemmed points; (c) Nespelem Bar Points; and (d) Quelomene Bar Points.
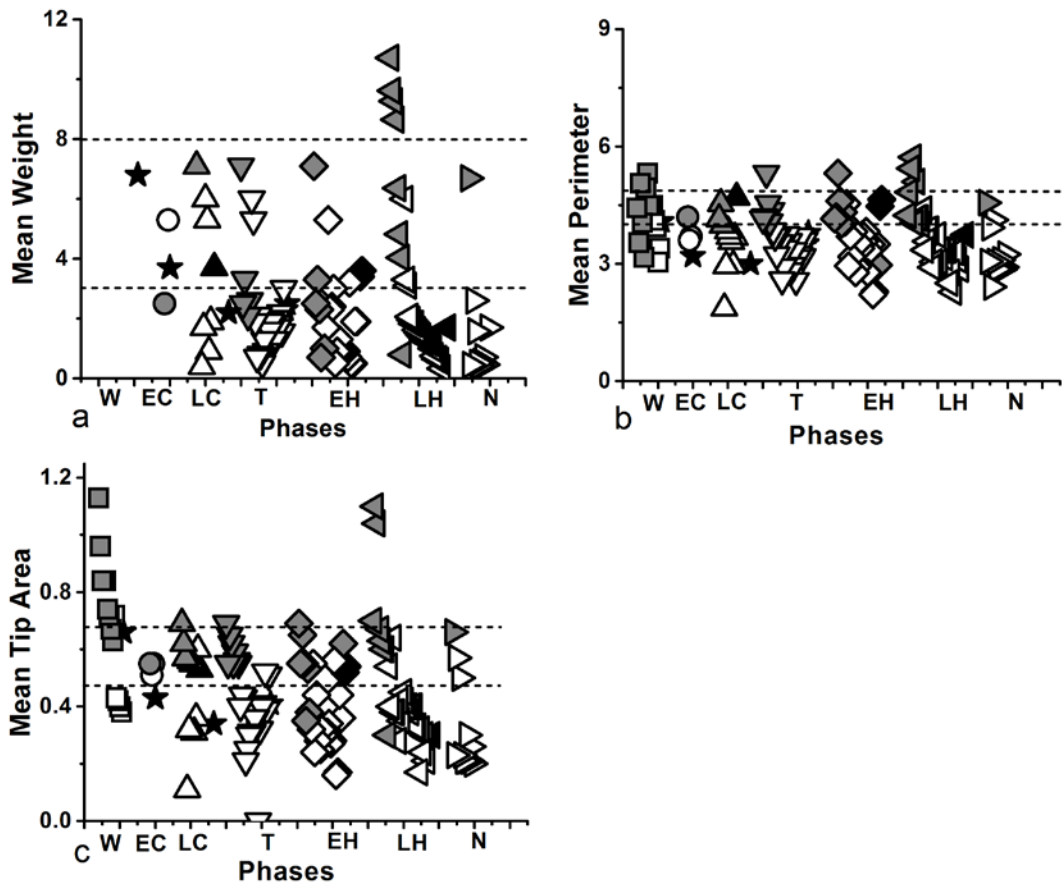
Figure 16. (a) Mean weights; (b) perimeters; (c) and tip areas, classed by phase of Lower Snake River projectile point types. Stars are Hatwai point classes, including Windust, Cascade, and Hatwai Eared. Dashed lines indicate Hughes's (1998) thresholds (Table 4).
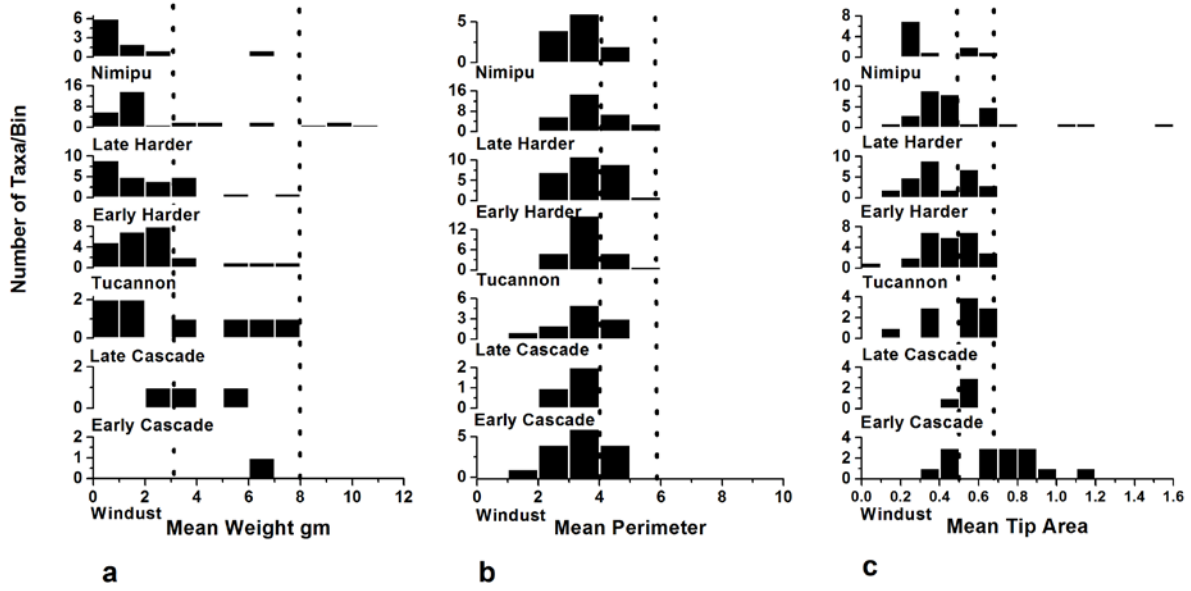
Figure 17. (a) Mean weights; (b) perimeters; (c) and tip areas for Lower Snake River Projectile points. Dashed lines indicate Hughes's (1998) thresholds (Table 4).
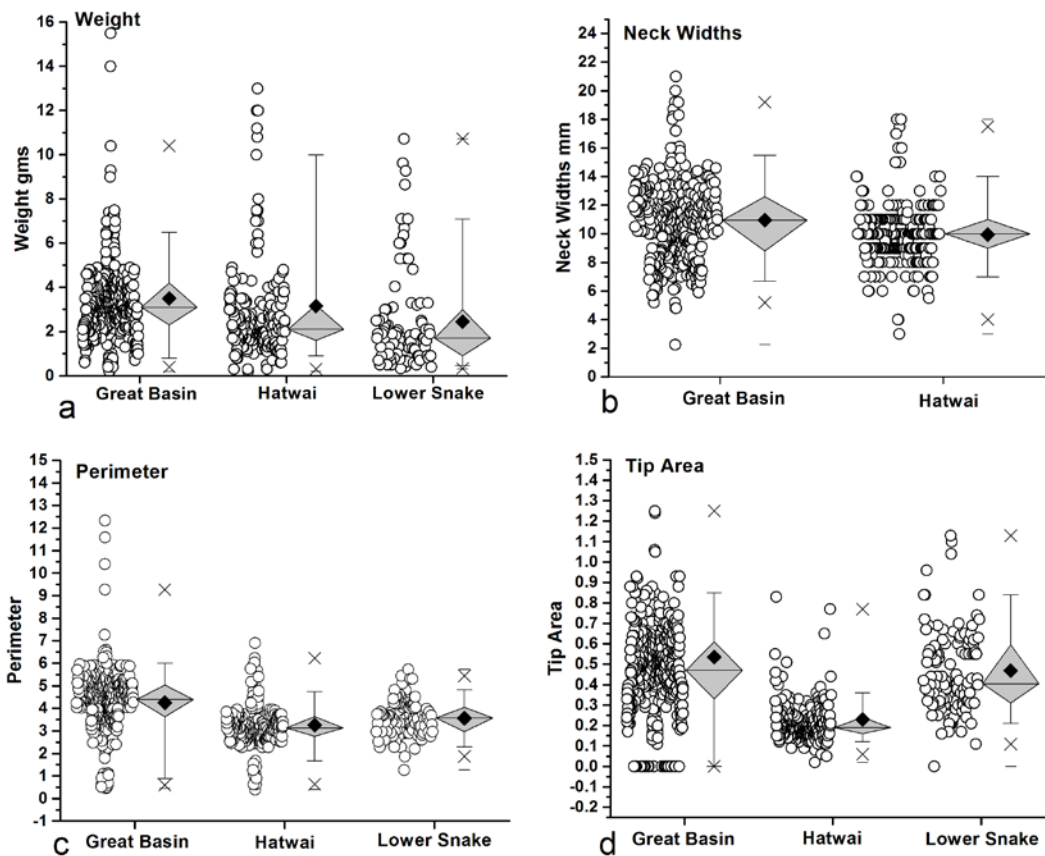
Figure 18. Box plots comparing sizes of Western Great Basin, Hatwai and Lower Snake River projectile points on four dimensions: (a) weight; (b) neck widths; (c) perimeter; and (d) tip area. The Lower Snake River figures are class means; the Western Great Basin and Hatwai figures are individual points. The black diamonds are the means; the lines at the center of the boxes are the median; the boxes span the 25th–75th percentiles, the whiskers the 5th–95th percentiles.
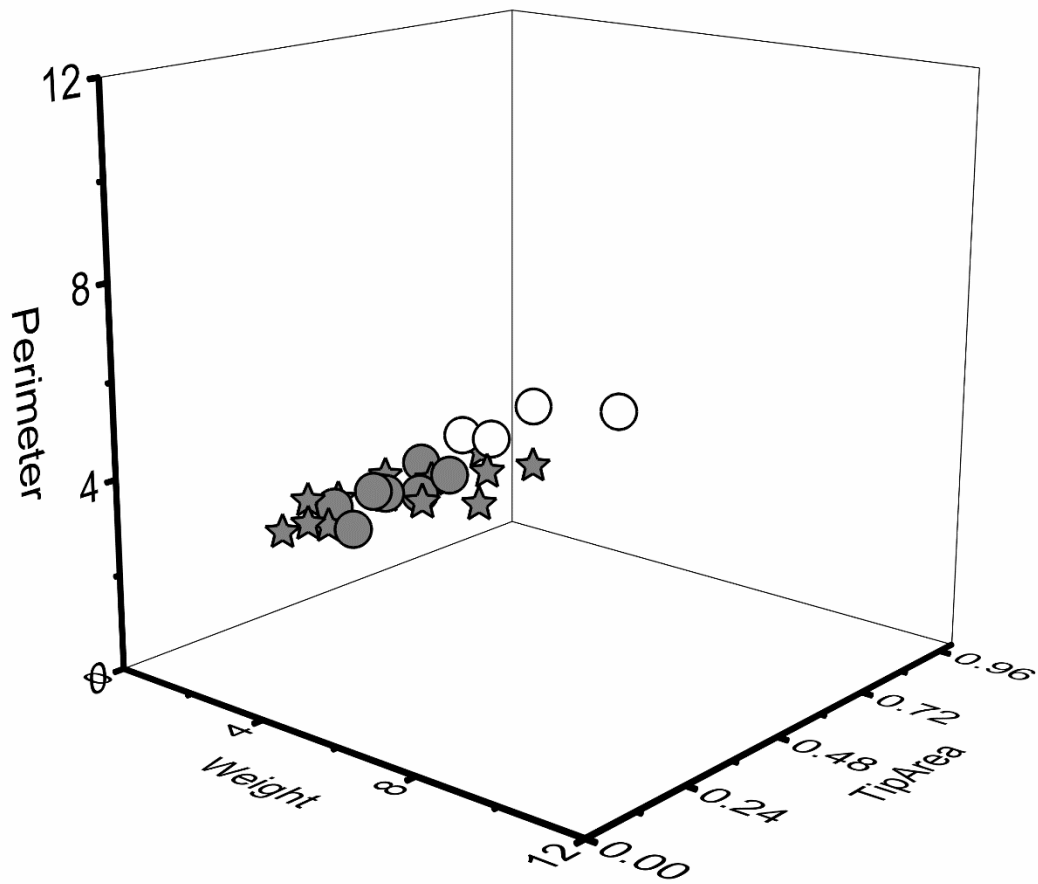
Figure 19. Size variation among Hatwai Cascade (stars) and Humboldt Series points (circles). Humboldt points are the only lanceolate points in the WGB sample. Open symbols represent points classed as darts, gray symbols points classed as arrows by the Thomas-Shott equations (Shott 1997).
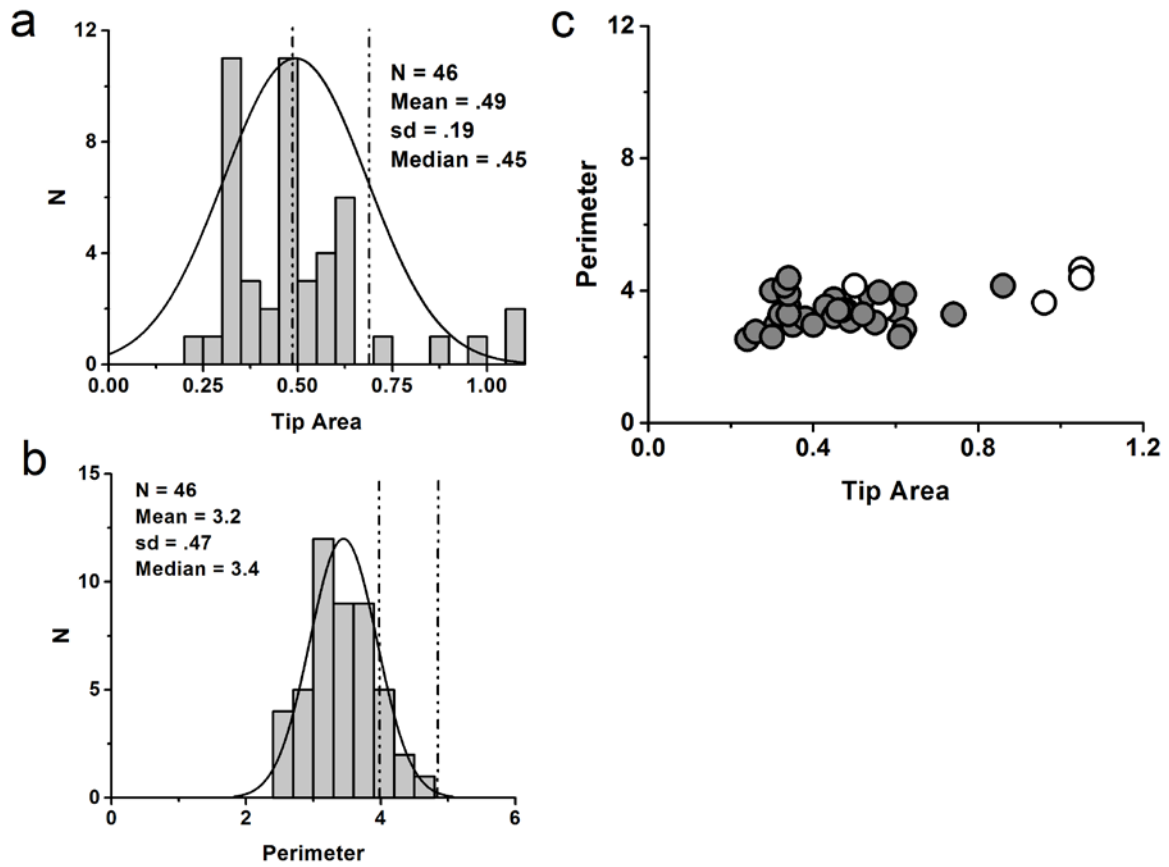
Figure 20. Tip areas (a, c) and perimeters (b, c) for Cascade points from Hatwai, Granite Point, and Ryegrass Coulee. Dashed lines indicate Hughes's (1998) thresholds (Table 4).