

HAPLOPAPPUS ENORMIDENS (COMPOSITAE),
A NEW SPECIES FROM BAJA CALIFORNIA, MEXICO

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In June 1975 I found sterile plants of an unknown Haplopappus in the southwestern foothills of the Sierra San Pedro Mártir, Baja California. In habit this plant resembled H. vernicosus Brandegees, for which I mistook it from a distance; but the leaves were more like those of H. odontolepis Moran. I returned to the spot with Jack Reveal on July 19 and 20, to find the plant in late flower and early fruit. It proves to be a new species somewhat intermediate between H. vernicosus and H. odontolepis.

The new species is placed in Haplopappus section Hazardia as treated by Hall (1928). Clark (1975) compared Hazardia with Isocoma and Ericameria, also treated by Hall as sections of Haplopappus, and concluded that "Hazardia should be considered a distinct genus separate from Hall's other North American sections of Haplopappus". With his evidence, he may judge that Hazardia should be in a different genus from Isocoma and Ericameria, even though not all taxonomists will necessarily agree. From the evidence given, however, he cannot logically conclude that Hazardia should be considered a distinct genus, for he made no comparisons with the South American type species and typical section of Haplopappus.

Haplopappus odontolepis was described (Moran 1969) from flowering material, with no mature achenes. Although it seemed probable that the disk florets were fertile, a later collection shows them sterile.

I am grateful to Dr. Ray Jackson for making chromosome counts of several collections of Haplopappus species and for reviewing this manuscript.

Haplopappus enormidens Moran, species nova.

Fruticulus hispidulus resinosus 1-3 dm altus. Folia sessilia elliptica acuta irregularissime spinoso-dentata plerumque 6-10 mm longa et 2-3 mm lata. Capitula solitaria vel pauca cymosaeque, involucri cylindrico 9-12 mm longo et 2-3 mm lato, bracteis 16-21 squarrosis. Flores radii 3-6 fertiles, ligulis 3-4 mm longis. Flores disci 5-11 steriles. Achenia obcompressa cuneata 3-4 mm longa, pappo 4-6 mm longo. Typus: Moran et Reveal 22602 (SD 91522). Species H. odontolepidi similis, sed foliis capitulisque minoribus, bracteis uninerviis, et floribus paucioribus minoribusque.

Shrublet 1-3 dm high and 2-7 dm wide, much branched from base, hispidulous with conic white trichomes ca. 0.05 mm long, resinous, with odor recalling turpentine. Branchlets flexuous, 0.5-1.0 mm thick, angled from leaf margins and midrib downwards, sparsely hispidulous, light green soon becoming tan, gray in age, leafy, mostly with small few-leaved fascicles in axils, the internodes averaging ca. 3-6 mm. Leaves ascending, sessile and subclasping-decurrent, elliptic to oblong, acute, 6-10 (-14) mm long, 2-3 (-5) mm wide above, 1-2 mm wide at base, coriaceous, glandular-pitted and slightly to heavily resinous, moderately hispidulous either mostly near margins or throughout, the midrib inconspicuously projecting dorsally, gibbous at base, not discernible ventrally, the lateral veins obscure, the apex deflexed, tipped with a white spine to ca. 0.5 mm long, the margins entire or with 1-9 very irregularly spaced spreading or slightly ascending white spinose teeth ca. 0.2-0.5 mm long. Heads yellow, solitary at ends of branchlets or cymose with 1-4 more on peduncles 1-12 mm long from upper axils. Involucre cylindric or subfusiform, shorter than disk, 9-12 mm long, 2-3 mm thick exclusive of squarrose tips; bracts 16-21, firm-chartaceous, 1-nerved, the outer 10 or so well graduated with lower passing into leaves, ca. 2 mm wide, the exposed upper 2-4 mm herbaceous, glandular-pitted, often with 1-4 marginal teeth, ciliate below, the spinose tip outcurved; inner ones subequal, linear, acute, erose-ciliate above, the outer of these ca. 2 mm, the inner ca. 1 mm wide. Ray florets 3-6, fertile; ovary 2-3 (-5) mm long; corolla 7.5-11 mm long, the ligule elliptic, scarcely toothed at apex, 3-4 mm long, 1.0-1.3 mm wide; style branches 0.6-1.4 mm long, stigmatic full length. Disk florets 5-11, sterile; ovary 2-3 (-5) mm long; corolla 7-9 mm long, slender, slightly ampliate from middle, the teeth 0.6-0.8 mm long; style branches 1-2 mm long, puberulent throughout, lacking evident stigmatic lines. Achenes obcompressed, cuneate, 3-4 mm long, ca. 1 mm wide, grayish, ascending strigose with trichomes ca. 0.2 mm long, mostly with 5 rather strong white nerves, one on axial side often prominent; pappus 4-6 mm long, of ca. 45-55 scabrous bristles. Chromosomes: $2n=10$.

Type: Ridge 5 km southwest of San Isidoro (7.5 km by road), elevation ca. 1170 m, southwestern foothills of the Sierra San Pedro Mártir, Baja California Norte, México (near 30°44'N, 115°34'W), 19 July 1975, Reid Moran & Jack Reveal 22602; holotype, SD 91522; isotypes to go.

Distribution: Known only from the vicinity of the type locality (Moran 22343, Moran & Reveal 22606) and from about 40 km to the south-southeast, south of Rancho San Miguel, at 975 to 1175 m elevation (Moran 19511, 22640); all SD and to go.

At the type locality H. enormidens is abundant on a slight north slope in open areas at the edge of chaparral and especially in an open stand of Juniperus californica Carr. It was seen for about 2 km along the road, replaced rather abruptly by H. vernicosus both to the east and to the west. At the zone of contact we found a few intermediate plants that appear to be hybrids (22607); and from buds collected there for H. enormidens (22606) Dr. Jackson, though he got no chromosome count, reports the pollen size very unequal and the plant probably somewhat sterile. South of Rancho San Miguel H. enormidens is common on a mesa with Adenostoma fasciculatum H. & A. and Juniperus californica and occasional down the north slope; there H. vernicosus occurs at a lower elevation, and the two were not seen together.

Haplopappus enormidens is named for the very irregular distribution of teeth on the leaf margins: there may be three on one side and none on the other, or one near the base on one side and two near the apex on the other, or none at all, or up to nine—and all in leaves of one branch. In H. odontolepis the distribution of teeth is somewhat irregular but less markedly so.

Haplopappus enormidens is like a small form of H. odontolepis, with thinner stems, smaller leaves, smaller heads, and fewer and smaller florets. That species is now known from three peaks—Cerro Matomí, Cerro Potrero, and Cerro Santo Tomás—in a span of 100 km along the peninsular divide of Baja California, at about 1150 to 1450 m; the northernmost is about 25 km east of the southern locality for H. enormidens. Where H. enormidens differs from H. odontolepis, it often approaches H. vernicosus—which is abundant in the foothills from north of San Vicente to southeast of El Rosario, at about 50 to 1200 m. The three species are distinguished in the following key.

- A. Involucres 9-13 mm long; ovaries of (sterile) disk florets equalling those of ray florets; leaves sessile, gradually narrowed to the subclasping base, toothed but not lobed.
 - B. Ray florets 6-8, the ligules 5-6.5 mm long; disk florets 11-15; involucres 3-5 mm thick, of ca. 25-30 several-nerved bracts. H. odontolepis.
 - BB. Ray florets 3-6, the ligules 3-4 mm long; disk florets 5-11; involucres 2-3 mm thick, of 16-21 one-nerved bracts H. enormidens.
- AA. Involucres 6-7 mm long; ovaries of (sterile) disk florets half as long as those of ray florets; leaves narrowed, often abruptly, to petiole-like base, the blade lobed a third or half way to midrib H. vernicosus.

These three species are placed in section Hazardia. For the collection of H. enormidens from San Miguel (22640), Dr. Jackson reports a somatic chromosome count of $2n=10$, agreeing with counts for H. vernicosus and other members of the section. Within the section, however, these three form a distinct group marked by sterile disk florets, toothed outer involucre bracts, and obcompressed achenes—all characters rare or unique in the genus—and further characterized by a low bushy habit and small toothed resinous leaves. The three form a series, with H. odontolepis most like other members of the section and H. vernicosus most reduced and divergent. Thus H. vernicosus differs from H. odontolepis in having (1) smaller leaves, narrowed to a petiole-like base rather than broad and subclasping; (2) smaller heads, with fewer bracts and fewer and smaller florets; (3) one-nerved rather than several-nerved bracts; (4) the ovary of the disk florets half as long as that of the ray florets rather than as long; and (5) stigma lobes of the disk florets lacking stigmatic lines. Haplopappus enormidens is intermediate in size of leaves and heads and in number and size of florets; it is like H. odontolepis in leaf shape and in relative size of disk ovaries; and it is like H. vernicosus in having one-nerved bracts and in lacking stigmatic lines in the disk florets.

References

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