



Side-blotched lizard in the southern San Joaquin Valley.

SPECIES SPOTLIGHT: *by Felix Ratcliff Photos courtesy of UC Berkeley Rangeland Ecology Lab*

Side-blotched Lizard

Strolling through open grasslands on a warm day in central or southern California, you will likely see tiny beige-brown lizards darting along the ground, seeking cover in burrows or under bushes. If you can, creep up and get a closer look: these humble grassland denizens are more ornate than they appear from afar. Their tiny, granular dorsal (back) scales are often flecked with blue, orange, or yellow, and many lizards have a bold blue-ish black “side-blotch” behind each foreleg that looks like it was made with a Sharpie pen.

Markings on male side-blotched lizards tell us more than their identity—they are a window into their behaviors and reproductive strategies. Males have one of three distinct throat colors: yellow, orange, and blue. Orange-throated males are highly aggressive and defend large territories, breeding with multiple females in their territory, although they have a hard time keeping an eye on their whole territory. Males with blue throats are much less aggressive, defend smaller territories, and closely guard the females they mate

with from other aspiring males. Yellow-throated males resemble females and are able to sneak into the territories of orange-throated males to mate with females—but they get chased away by blue-throated males when they approach their territory. Each strategy has an evolutionary advantage and weakness. If any one of these male morphs becomes more abundant than the others, another one of the morphs will exploit its weakness for their own benefit. This is often referred to as an evolutionary game of “rock-paper-scissors” (Sinervo and Lively 1996).

Side-blotched lizards typically only survive long enough to breed once (Stebbins and McGinnis 2011). If the weather is good and there are plentiful beetles, ants, spiders, and grasshoppers to eat (CalHerps 2019), they can produce many offspring in a single year. Females lay up to eight clutches of one to eight eggs each year. The hatchlings, when they emerge, are small—a little under an inch long (Stebbins and McGinnis 2011). Though numerous, the fate of side-blotch hatchlings is uncertain. Both adults and juveniles are an important food source for snakes, larger lizards, and birds. Only 15% to 43% of hatchlings survive to 9 months of age, and that number is largely dependent on the number of predators in their area (Turner et al. 1982).

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Despite this tenuous existence, side-blotched lizards are not listed as threatened by any state or federal agencies or international organizations. Their abundance in California grasslands, however, is affected by management practices. This species lives in open habitats with bare soil or rock substrate (Stebbins and McGinnis 2011). Much of California's grasslands are now dominated by non-native annual grasses which can form dense cover and a thick, persistent 'thatch' layer. This change in physical structure reduces habitat quality for many species that are adapted to more open environments, and species which evolved in more open habitats often benefit from grassland management practices such as livestock grazing that reduce plant height and cover of annual grasses (Germano et al. 2012). A study on Tejon Ranch in 2014–2015 showed that side-blotched lizards also benefit from cattle grazing, increasing in number as the number of cattle in an area increased (Ratcliff 2017).

Though tiny, common, and widespread, these beautiful lizards are worthy of our attention. The next time you see a tiny beige blur flitting across the open ground, try tiptoeing closer and see if you



can catch a glimpse of its throat color, and get a window into the life of these amazing creatures.



References

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Inset: Typical side-blotched lizard habitat in a San Joaquin Valley grassland.



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The mission of the California Native Grasslands Association is to promote, preserve, and restore the diversity of California's native grasses and grassland ecosystems through education, advocacy, research, and stewardship.