

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

Element Code: ABPAE33080

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Empidonax hammondii* (Xantus de Vesey, 1858)

COMMON NAME: Hammond's Flycatcher, Mosquero de Hammond

SYNONYMS: *Tyrannula hammondii*

FAMILY: Tyrannidae

AUTHOR, PLACE OF PUBLICATION: *Empidonax hammondii* Xantus. *Tyrannula hammondii* De Vesey (= Xantus), Proc. Acad. Nat. Sci. Philadelphia, (10), Sig. 8, May (after May 25) 1858, p. 117.

TYPE LOCALITY: Fort Tejon, Kern County, California, U.S.A.

TYPE SPECIMEN: Cotype: US A10079 (adult male), US A10080 (adult female). J. Xantus 803 and 652, October 18, 1858? (not earlier than May 25).

TAXONOMIC UNIQUENESS: A morphologically uniform species with low genetic variability across entire range (Johnson and Marten 1991 *in* NatureServe 2002). It is 1 of 11 North American species of *Empidonax*, that look alike. Most have a light-colored eye-ring, relatively short wings, and prominent wing-bars. Vocalization, breeding habitat, and nest structure provide some of the most reliable features for recognizing species in the genus. (Sibley 2001).

DESCRIPTION: A small and compact bird, with a fairly large head and short tail. They range from 12.5 – 14.5 cm (4.9-5.7 in) in length, with an average wingspan of 22.2 cm (8.75 in), and weights of 7.7-12.1 g. A sexually monomorphic species; during breeding season, males have cloacal protuberance, females have brood patch. The upper parts are grayish olive; the head more grayish with less olive; the sides of breast and upper breast are dark gray. Abdomen and undertail coverts are yellowish to whitish depending on extent of prenuptial molt; the yellow or white abdomen bordered by darkish flanks, gives some birds a vested appearance. The slightly notched tail is edged with gray. The throat is pale gray; outer web of outer tail feathers is grayish white; whitish eye-ring is present, and often thicker behind the eye. Wing-bars are narrow and whitish in adults (buffy in fall), and broader and buffy in hatchling year (HY) birds. The bill is short (6.0-7.9 mm) and narrow (usually ≤ 4.5 mm), with the upper mandible blackish, and the lower mandible one-half to two-thirds dark, with a yellowish base; mostly orangish in HY birds (Pyle et al. 1987 *in* Sedgwick 1994). (Sedgwick 1994, National Geographic 1999).

AIDS TO IDENTIFICATION: Hammond's Flycatcher (*Empidonax hammondii*) is difficult to identify in the field, often being confused with the Dusky (*E. oberholseri*) and Gray (*E. wrightii*) flycatchers, whose habitats occasionally overlap those of Hammond's. Size and color differences among these species are subtle, and the songs and calls, especially of Hammond's and Dusky, are similar enough to make field identification difficult for the casual observer. The bill of Hammond's flycatcher is short and narrow compared to Dusky (intermediate) and Gray (longer) flycatchers. The Dusky and Gray flycatchers appear long-tailed compared to Hammond's, which has longer primary extension. The head of Hammond's appears rather large; has a more compressed, rounder body appearance than the Dusky or Gray flycatchers. (Sedgwick 1994). The Hammond's Flycatcher flicks its wings and tail more vigorously than other similar species.

ILLUSTRATIONS: Color drawings (Sibley, 2000: p. 328).
Color drawing (National Geographic, 1999: p. 291)
Color photo (Udvardy and Farrand, Jr., 1994: plate 575)
Color drawing (Peterson, 1990: p. 239)
Color drawing (Robbins, Bruun, and Zim, 1983: p. 215)
Color photo (Chan Robbins in <http://www.mbr-pwrc.usgs.gov/>)
Color photos (Peter LaTourrette 2002 in <http://www.birdphotography.com/species/hafl.html>)
Color photos (mike Danzenbaker 2002 in <http://www.avesphoto.com/website/>)
Color photos (Pomera M. Fronce 2001 in <http://www.utahbirds.org/birdsofutah/>)

TOTAL RANGE: Breeding: East-central Alaska, southern Yukon, northeastern British Columbia, southwestern Alberta, western and south-central Montana, northwestern Wyoming, south through northwestern U.S. (Washington, Oregon, Idaho) to east-central California, Utah, northeastern Arizona, western Colorado, and north-central New Mexico (AOU 1998, Sedgwick 1994, in NatureServe 2002). Centers of breeding abundance in Pacific Northwest and northern Rockies.

Non-breeding: Southeastern Arizona, south through highlands of Mexico, Guatemala and El Salvador to Honduras and probably Nicaragua (AOU 1998, in NatureServe 2002).

RANGE WITHIN ARIZONA: Breeding: rarely breeds in northeastern part of state (Chuska Mountains, Apache County). Non-breeding: generally in southeastern part of state in Gila, Cochise, and Pima counties. Has also been observed in La Paz and Mohave counties.

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: *Empidonax hammondii* is most likely to be heard than seen, partly because they prefer to be higher in the trees than other flycatchers. Vocalization consists of a song that has

3 elements: a dry, sharp, 2-syllabled *se-put* delivered briskly; a low-pitched, burry *tsurrt*; and a rough, drawn out, 2-syllabled *chu-lup* (Sedgwick 1975, *in* Sedgwick 1994). Birds begin giving advertising song shortly after arrival on breeding grounds. No song given on wintering grounds. Migration between breeding and wintering grounds is generally nocturnal. Southern Arizona migrations are from March 23 to May 28; and again from August 11 to November 4 (Phillips, Marshall, and Monson, 1964). On the Lower Colorado River Valley, they are a fairly common spring migrant from early April to mid-May, and a rare but regular fall migrant from early September to mid-or even late-October; also a rare or irregular winter resident (Rosenberg et al., 1991).

Little direct evidence of predation. Likely predators at nests include Stellar's Jay (*Cyanocitta stelleri*), chipmunks (*Eutamias* sp.), red squirrels (*Tamiasciurus hudsonicus*) and chickarees (*T. douglasi*). (Sedgwick 1994).

REPRODUCTION: This species prefers mature and old-growth coniferous forests, with stands generally greater than 10 hectares and a minimum age of 80 to 90 years. They nest high in conifers, placing their nest on a horizontal limb away from the main trunk (BISON 2000, reports nests placed on limb at crotch of main trunk). This placement makes observation difficult. Territorial establishment is marked by onset of advertising song in early- to mid-May. Females selects nest site, collects nest material, and builds nest while male perches nearby (Davis 1954, Sedgwick 1975, *in* Sedgwick 1994). Nests are compact, and consist of plant fibers and fine grass, commonly lined with soft material such as horse hairs and feathers. Other nesting material may include cocoon, pine needles, lichen, conifer bud scales, and bark shred (BISON, 2002). Nest is usually used only once. Clutches of 3 to 4 pale creamy white eggs (usually unmarked) are laid in early June. Incubation lasts about 15 days. Hatchlings are altricial, nidicolous, eyes closed. Fledging occurs 16 to 18 days after hatching, usually in mid-July. Fledglings remain on parents' territory about 20 days and then disperse. Only the female incubates the eggs and broods the young, although both parents feed the nestlings and fledglings.

FOOD HABITS: Insects are main food taken. In western Montana, caterpillars, butterflies, and moths were among the main food consumed. Sibley (2001), reports that "tyrant flycatchers eat insects of all the major taxonomic groups, true fly's (dipterans) are a dietary staple. Bees, wasps, ants, grasshoppers, beetles, and true bugs are well represented in tyrannid diets. The percentage of each group in the diet varies with seasonal and regional availability, as well as the size of the flycatcher species and foraging technique." Primarily an aerial forager, that occasionally may forage extensively from leaf surfaces or from the ground. These foraging tactics vary with the stage of the breeding cycle. (Sedgwick 1994).

HABITAT: Cool forest and woodland nesting primarily in dense fir forest; in migration and winter, through deserts and in scrub, pine and pine-oak association. In western North America, Hammond's Flycatcher prefers tall, mature old-growth coniferous woodlands, unlike the similar-looking Dusky Flycatcher, which forages lower to the ground in open woodlands and mountain chaparral (Sibley 2001).

ELEVATION: 7,500 – 10,000 feet (2288-3050 m) (BISON, 2002). Nests up to 11,000 feet (3355 m) per Robbins, Bruun, and Zim (1983).

PLANT COMMUNITY: Western forest cover type groups for its range include Douglas-fir, Hemlock-Sitka Spruce, Redwood, Ponderosa Pine, Western White Pine-Larch, Lodgepole Pine, Fir-Spruce, and Aspen-Hardwoods habitats. In the Southwest, commonly found in Warm-temperate forests and woodlands. (BISON, 2002).

POPULATION TRENDS: Unknown. Common throughout state during migrations. Winters regularly in southern and southeastern part of state.

Concerning global trends, NatureServe (2002) reports the following: “As a result of the past century of timber harvest, the species may have declined overall in northwestern Douglas-fir (*Pseudotsuga menziesii*) and southwestern ponderosa pine (*Pinus ponderosa*) forests (Raphael et al. 1988, Hejl 1994). Has increased in Alaska, however, due to a northward range expansion (DeSante and George 1994). Current populations appear to be stable to increasing overall, with some local declines. Trend analysis from North American Breeding Bird Survey (BBS) data shows positive but non-significant long-term population increase survey-wide, 1966-1996 (1.2 percent annual change, $P = 0.24$, $n = 269$ survey routes), and a significant increase from 1980 to 1996 (2.9 percent annual change, $P = 0.01$, $n = 257$)... From 1980 to 1996, trend estimates show significant increases in Washington (6.2 percent annual change, $P = 0.09$, $n = 38$) and province-wide in British Columbia (4.0 percent annual change, $P = 0.02$, $n = 62$). Trend estimates for other states are not statistically significant. Mapped 30-year trends (1966-1996) show declines in central British Columbia, western Oregon, northern California, and the Northern Rockies of Montana, Idaho and Wyoming, and increases in western Washington, coastal and Rocky Mountain British Columbia, and the southern Rockies.”

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:

STATE STATUS:

OTHER STATUS:

Group 4 (NNFWD, NESL 2000)

MANAGEMENT FACTORS: Concern exists for *Empidonax hammondii* for which there is no strong evidence of a significant decline. Biologists are monitoring this flycatcher because of its close association with mature old-growth coniferous woodlands, which have been extensively cut in recent decades. (Sibley 2001). Timber harvest and fires can sometimes actually benefit Hammond’s flycatcher if the forest understory is opened up while the canopy remains closed. According to Montana Partners in Flight Bird Conservation Plan (2000), “Logging, or stand replacement fires resulting from past fire suppression, that remove dense stands will negatively impact this species. Pesticides that target aerial insects will decrease their food supply. Stream dewatering will decrease the riparian component that is apparently important for this species.” Deforestation is the principal known threat to the

species and it is probably sensitive to forest fragmentation (NatureServe 2002). Little is known about the winter habits or threats on its wintering grounds.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Biological information on wintering grounds, including habitat selection and preferences, and inter- and intraspecific resource competition, is lacking. With continuing development and degradation of critical migratory habitats, especially riparian ecosystems, knowledge of the importance and use of habitat along migration routes becomes more critical. (Sedgwick 1994).

Little detailed information on its natural history, including such basic parameters as clutch size, nest success, number of young fledged/pair, causes of mortality, etc. Because of limited life history knowledge, studies are needed in different habitat types throughout breeding range. Since this species occurs in mature coniferous or mixed forests (potentially vulnerable to logging), studies are needed on the effects of habitat alteration and forest fragmentation. No studies on survivorship or population dynamics have been conducted; a long-term study of a marked population would fill a critical gap in our knowledge of this flycatcher. (Sedgwick 1994).

LAND MANAGEMENT/OWNERSHIP: BIA – Navajo Nation?; NPS – Coronado National Memorial; USFS – Apache-Sitgreaves, Coconino, Coronado, Kaibab, Prescott, and Tonto National Forests.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:****Revised:** 2003-03-13 (SMS)

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