Literature Cited

R. 1990. Status review of the razorback sucker, *texanus*. Colorado State University, Larval Fish Contribution 44:1–92.

., G. B. Haines, and A. A. Hill. 2011. Synthesis of wetland information: timing of razorback sucker on in the Green River, Utah, related to stream temperature, and flood plain wetland availability. State University, Larval Fish Laboratory Contribu-90.

A., and R. T. Muth. 1993. Endangered species nt. Pages 355–381 in Inland fisheries management ler and W. A. Hubert, editors). American Fisheries thesda, Maryland.

.., P. C. Marsh, J. E. Brooks, J. E. Johnson, and B. L. 1. Management toward recovery of the razorback ges 303–357 in Battle against extinction: native fish nt in the American west (W. L. Minckley and J. E. litors). University of Arizona Press, Tucson.

6. Juvenile razorback sucker (*Xyrauchen texanus*) in a managed wetland adjacent to the Green Naturalist 56:375–376.

Modde, T., K. P. Burnham, and E. J. Wick. 1996. of the razorback sucker in the midd Conservation Biology 10:110–119.

Modde, T., R. T. Muth, and G. B. Haines. wetland suitability, access, and potential razorback suckers in the Middle Green Riv tions of the American Fisheries Society 13

United States Fish and Wildlife Service. 1991 threatened wildlife and plants: the razor *auchen texanus*) determined to be an en Federal Register 56:54957–54967.

Zelasko, K. A., K. R. Bestgen, and G. C. Wh rates and movement of hatchery-reared ra the Upper Colorado River Basin, Uta Transactions of the American Fisheries 1499.

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AL PREDATION BY A COYOTE (*CANIS LATRANS JAMES* BLUE-FOOTED BOOBY (*SULA NEBOUXII*) ON ISLA T GULF OF CALIFORNIA, MEXICO

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ract—We report the predation by a coyote (*Canis latrans jamesi*) on a foraging, adult blue-fo *bouxii*) during the early afternoon on 2 December 2009 on the west coast of Isla Tiburón in ia, Mexico. The observed event took place while a flock of blue-footed and brown bo *ter*) was plunge-diving close to shore. The food habits of coyotes on Isla Tiburón are not l of live adult boobies by coyotes has not previously been documented in the literature.

men—Se reporta la depredación de un coyote (*Canis latrans jamesi*) sobre un individuo adul s azules (*Sula nebouxii*) mientras forrajeaba durante la tarde del 2 de diciembre de 2009 e isla Tiburón en el Golfo de California, México. El evento se presentó mientras un grupo d ules y bobos café (*Sula leucogaster*) estaba zambulléndose cerca de la costa. Se desconocen

iff Island region in the Gulf of California is one of the most productive marine ecosystems (Álverez-Borego, 1983; Brusca et al., 2005). upwelling of cold, nutrient-rich waters around upports millions of waterbirds, including some st seabird colonies in northwestern Mexico l., 2005). Isla San Pedro Mártir is a nesting site for 368,000 blue-footed and brown boobi and *S. leucogaster*), which are year-round region (Tershy and Breese, 1997; Velarc Boobies are commonly seen foraging i individuals) flocks inshore and in pelagic

Isla Tiburón (1,224 km^2) is located 1 eastern coast of Sonora, in the Midriff I

of California. It is the largest island in Mexico, land-bridge island, it has the greatest diversity of s and reptiles of any island in the Gulf (Lawler, varez-Castañeda and González-Quintero, 2005). nd supports only a few small populations of vaterbirds (Anderson, 1983; Everett and Ander- 1; Velarde and Anderson, 1994; Velarde et al., kely due to the presence of terrestrial predators ringtails (*Bassariscus astutus*) and coyotes (*Canis* The coyotes of mainland Sonora are classified as *is mearnsi*. The coyotes of Isla Tiburón are to a different subspecies (*C. latrans jamesi*), ittle study has occurred since the description by d (1912), and further investigation is needed to ıe the degree of speciation between the two l subspecies.

generally accepted that coyotes are crepuscular turnal foragers, although they are known to be pportunistic in selection of prey and foraging koff, 1977; Camenzind, 1978; Andelt, 1985; Gese .off, 2004). The importance of marine food or coyotes has been documented in the Gulf of a on Isla San Luis Gonzaga, the only other Gulf th coyotes. On this island, Álvarez-Castañeda and -Quintero (2005) identified 12 marine taxa in of coyote and concluded that scavenged carcasses sustained the population of coyotes during the he authors also reported that the coyotes in their quently crossed the channel from Isla San Luis to the Baja peninsula; on Isla Tiburon, coyotes t been recorded crossing the channel to the l. Rose and Polis (1998) documented 31 marine he scat of coyotes along the western coastline of of California. They found that coastal areas that marine inputs sustained densities of coyotes at point was 1–2 m from the shore. Most were either recovering from diving c Ten s later the coyote reappeared w footed booby in its jaws. The coyote bird to the high tide line where it pro prey vigorously, while the bird counte the face. It soon appeared that the struggling and was presumed dead. coyote had left the beach with its pr into the vegetation.

The feeding habits of coyote on t unknown. Studies are needed to dete population regularly supplements it inputs, as was found on Isla San Luis Castañeda and González-Quintero (subsidies support higher densities in of coyote as reported by Rose and predation we observed demonstrates nature of coyote foraging and highl further study in the region.

This event was observed as part o Conservation Program of the Prescott Col for Cultural and Ecological Studies. We support through the Research and Conser Kino Bay Center for Cultural and E Fleischner, M. Riegner, and G. Smart comments on the manuscript, and C. D. transportation by boat.

Literature Cited

Alvarez-Borrego, S. 1983. Gulf of Califor Ecosystems of the world, 26: estuaries H. Ketchum, editor). Elsevier, New Yor

Álvarez-Castañeda, S. T., and P. Gonz Winter–spring food habits of an island

such as fin whales (*Balaenoptera physalus*) and
dt squid (*Dosidicus gigas*). However, nowhere in
ture is there documentation of coyotes capturing
t seabirds.

December 2009 at 1309 h on the west side of Isla
we observed a large (>1,500 individuals) group
ooted and brown boobies foraging on shoals of
m fishes. A flock (ca. 500 individuals) separated
group and flew toward the cobble beach. The
e feeding in a dense group, plunge-diving from
0 m. The feeding activity became concentrated
e shoreline, with boobies plunge-diving just off
n from 3–4 m in the air and surface-gleaning. We
erving from the water, approximately 125 m away,
arge coyote was seen running along the beach
north. The coyote ran straight toward the birds
ppeared into the feeding frenzy, which at that

Anderson, D. W. 1983. The seabirds. Pag
biogeography in the Sea of Cortez (T. J
editors). University of California Press,
Bekoff, M. 1977. Canis latrans. Mammalia
Brusca, R. C., L. T. Findley, P. A. Hastings,
Cosio, and A. M. Van der Heiden. 2005.
in the Gulf of California. Pages 179
ecosystems, and conservation in nor
Cartron, G. Ceballos, and R. S. Felg
University Press, Oxford, United Kingd
Camenzind, F. J. 1978. Behavioral ecolog
National Elk Refuge, Jackson, Wyomi
Coyotes: biology, behavior and man
editor). Academic Press, New York.
Everett, W. T., and D. W. Anderson
conservation of the breeding seabird
islands of Baja California and the
International Council for Bird Preserva
cation 11:115–139.

and M. Bekoff. 2004. Central and North America
. Pages 81–87 in Canids: foxes, wolves, jackals, and
illero-Zubiri, M. Hoffman, and D. W. Macdonald,
IUCN World Conservation Union/SSC Canid
Group, Gland and Cambridge, United Kingdom.
, D. J. Hafner, P. Stapp, B. R. Riddle, and S. T.
staÑeda. 2002. The mammals. Pages 326–361 in
geography in the Sea of Cortéz (T. J. Case, M. L.
E. Ezcurra, editors). Second edition. University of
Press, Berkeley.
and G. A. Polis. 1998. The distribution and
of coyotes: the effects of allochthonous food
rom the sea. Ecology 79:998–1007.
and D. Breese. 1997. The birds of San Perdo Martir
lf of California, Mexico. Western Birds 28:96–107.
H. 1912. Mammals collected by the 'Albatross'
in Lower California in 1911, with descriptions of
new species. Bulletin of the American Mu
History 31:117–130.
Velarde, E., and D. W. Anderson. 1994.
management of seabird islands in the G
setbacks and successes. Birdlife Conservat
243.
Velarde, E., J. E. Cartron, H. Drummond, D.
Gallardo, E. Palacios, and C. Rodrigue
seabirds of the Gulf of California's offshor
ecology, and conservation. Pages 452–47
ecosystems, and conservation in norther
Cartron, G. Ceballos, and R. S. Felger,
University Press, Oxford, United Kingdom

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SSING THE FENCE? BUFFELGRASS (*CENCHRUS CILIA*
ADING ALONG THE COASTAL SCRUB OF BAJA CALI
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RACT—Buffelgrass (*Cenchrus ciliaris* L.) is one of the most invasive species of plants in arid lan
a, especially in the Sonoran Desert. The climatic niche described by previous studies for
s that the climatic conditions of its adjacent Mediterranean region are a constrai
hment of buffelgrass. However, collections registered in recent years in herbaria an
tions of its presence along roadsides in the coastal scrub of Mediterranean Baja Califo
the opposite. To analyze this apparent contradiction, we surveyed the principal paved r
n half of Baja California peninsula, established its current distribution along roadsides, and
natic conditions of the observed distribution with the climatic niche established in the lit
buffelgrass to be scant with scattered distribution in the Sonoran Desert and, contrastingly,
Mediterranean Region. About half of the observed distribution of buffelgrass in the Me
(42%) has climatic conditions to persist and even spread.

MEN—El zacate buffel (*Cenchrus ciliaris* L.) es una de las especies de plantas más invas
s áridas de Norteamérica, especialmente en el desierto Sonorense. El nicho climático d
s previos para esta especie sugiere que las condiciones climáticas de la contigua región M
a limitante para el establecimiento del zacate buffel. Sin embargo, colectas de herbario re
cientes y repetidas observaciones de su presencia a lo largo de los bordes de carretera en
de la parte mediterránea de Baja California sugerirían lo contrario. Para analizar est
icción muestreamos las principales carreteras pavimentadas de la mitad norte de la penín