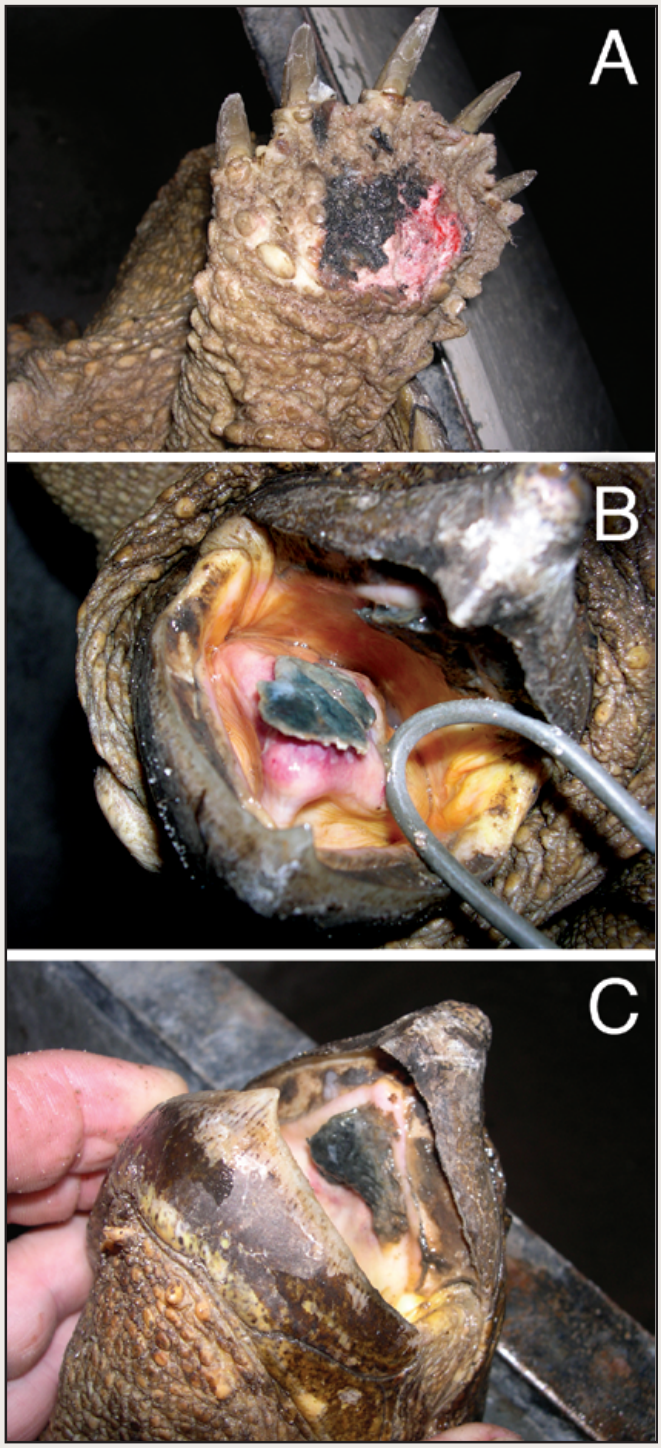

Fig. 1. Severe necrosis of ventral surface of right rear foot (A, top), dorsal surface of tongue (B, middle), and ventral surface of the palate (C, bottom) on a Nebraska Snapping Turtle captured 15 April 2007.

subsequent cold weather forced its terrestrial (or over-ice) migration to warmer water.

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***GOPHERUS AGASSIZII* (Desert Tortoise). NON-NATIVE SEED DISPERSAL.** Sahara Mustard (*Brassica tournefortii*) is a non-native, highly invasive weed species of southwestern U.S. deserts. Sahara Mustard is a hardy species, which flourishes under many conditions including drought and in both disturbed and undisturbed habitats (West and Nabhan 2002. *In* B. Tellman [ed.], Invasive Plants: Their Occurrence and Possible Impact on the Central Gulf Coast of Sonora and the Midriff Islands in the Sea of Cortes, pp. 91–111. University of Arizona Press, Tucson). Because of this species' ability to thrive in these habitats, *B. tournefortii* has been able to propagate throughout the southwestern United States establishing itself in the Mojave and Sonoran Deserts in Arizona, California, Nevada, and Utah. Unfortunately, naturally disturbed areas created by native species, such as the Desert Tortoise (*Gopherus agassizii*), within these deserts could have facilitated the propagation of *B. tournefortii*. (Lovich 1998. *In* R. G. Westbrooks [ed.], Invasive Plants, Changing the Landscape of America: Fact Book, p. 77. Federal Interagency Committee for the Management of Noxious and Exotic Weeds [FICMNEW], Washington, DC). However, Desert Tortoises have never been directly observed dispersing Sahara Mustard seeds. Here we present observations of two Desert Tortoises dispersing Sahara Mustard seeds at the interface between the Mojave and Sonoran deserts in California.

On 24 May 2010, we observed several Sahara Mustard seeds on the carapace of two male Desert Tortoises at our study site, a utility-scaled renewable energy wind park (33.95168°N, 116.667295°W, WGS84) in southern Riverside County, California. One tortoise had six *B. tournefortii* seeds adhered to the cervical scute and first vertebral scute, the seam between the first right marginal and the cervical scute, and on the dried epoxy holding the radio antenna to the carapace (Fig. 1). Another tortoise had a single Sahara Mustard seed on the second vertebral scute. Interestingly, Sahara Mustard has several modes of seed dispersal including, when moist, adhering to mobile organisms by a sticky substance (Minnich and Sanders 2000. *In* Bossard et al. [eds.], Invasive Plants of California's Wildlands, pp. 68–72. University of California Press, Berkeley, California), which explains our observations. Sahara Mustard seed's primary dispersal mechanism

Fig. 1. A male *Gopherus agassizii* with five visible red seeds of *Brassica tournefortii* adhered to its carapace.

includes wind (i.e., tumbleweed action) and rodents that collect, cache, and consume them (Bangle et al. 2008. West. N. Amer. Nat. 68:334–342). Although the observations reported here provide evidence that Desert Tortoises can also disperse seeds of Sahara Mustard, this mechanism, unlike wind and similar to rodent dispersal, has the potential for specifically introducing the non-native species in disturbed habitats, such as burrow aprons. Others have also reported the potential for Desert Tortoises to disperse other non-native species, such as Red Brome (*Bromus madritensis rubens*; Medica and Eckert 2007. Herpetol. Rev. 38:446–448).

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***MAUREMYS RIVULATA* (Balkan Terrapin). ANOPHTHALMIA.** Congenital defects of the eye, such as anophthalmia, microophthalmia, and cyclopia have been reported in many species of mammals (e.g., Fantes et al. 2003. Nat. Gen. 33:462–462), birds (Berger and Howard 1968. Condor 70:386–387), reptiles (Frye 1991. Biomedical and Surgical Aspects of Captive Reptile Husbandry, Volume II. Krieger Publ. Co., Malabar, Florida; Hindebrand 1930. J. Elisha Mitchell Sci. Soc. 46:41–53; Millichamp 1990. Proc. Amer. Assoc. Zoo Vet., American Association of Zoo Veterinarians, South Padre Island, Texas, pp. 297–301) and amphibians (e.g., Cheong et al. 2000. J. Comp. Pathol. 123:110–118; Millichamp 1990, *op. cit.*; Schoff et al. 2003. J. Wildl. Dis. 39:510–521), but reports of these conditions are uncommon, especially in the wild.

During a recent fieldtrip in the Southern Cyclades (Greece) in 2009, we examined 814 *Mauremys rivulata* specimens and found one (0.00123%) juvenile specimen near the barrage of Steno, in Livadi on Serifos Island, expressing this deficiency. This specimen clearly lacked eyes (Figs. 1, 2) and also possessed a reduced dental bone. We analyzed the skull dimensions with a portable RX-apparatus (AJEX 9020H, X-ray equipment Verachtert, Antwerp, Belgium). Comparison with a normal turtle (Figs. 1–2) of similar size clearly showed overall skull malformations of the examined specimen. The specimen with bilateral anophthalmia clearly has an enlarged os dentale, reduced maxilla and premaxilla. Additionally, the os nasale, os frontale, and the parietal bones do not appear to be ossified.

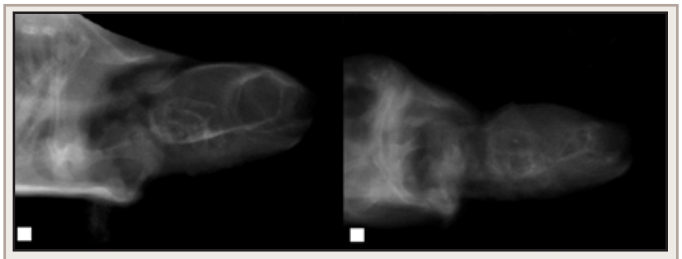

Fig. 1. Radiographic pictures of *Mauremys rivulata* with normal head (left) and with bilateral anophthalmia (right). The white square on the bottom left of each picture represents 1 mm.

Fig. 2. Photographic pictures of specimen with normal head (left) and with bilateral anophthalmia (right). The black and white bars on the scale represent 1 mm each, for a total bar length of 5 mm.

Bilateral anophthalmia is the most rare and severe form of structural eye malformation. Causes of this anomaly can both be induced by genetic mutations (e.g., Fantes et al. 2003, *op. cit.*) or by physical conditions during development (e.g., pathological shortening of the embryonic axis; Ewert 1985. Biology of the Reptilia, Vol. 14, Development A, pp. 75–267. Wiley, New York), but is usually undetermined (e.g., Millichamp 1990, *op. cit.*). All research was conducted under permits provided by the Greek Herpetological Society and the Greek Ministry of Agriculture. All procedures followed were approved by the University of Antwerp Animal Care and Use Committee. Jonathan Brecko is funded by a PhD. grant of the Instituut voor de Aanmoediging van Innovatie door Wetenschap en Technologie in Vlaanderen (Institute for the Promotion of Innovation by Science and Technology in Flanders).

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***PELODISCUS SINENSIS* (Chinese Softshell Turtle). EXTRALIMITAL WINTER SURVIVAL.** *Pelodiscus sinesis* is a medium-sized softshell turtle that ranges from from extreme southeastern Siberia (between the Ussuri and the Amur River drainages) and adjacent Korea through central and southern China, Vietnam, and the islands of Hainan and Taiwan. It has been introduced into the Hawaiian Islands, Guam, one of the Mariana Islands, one of the Bonin Islands, Timor, and California (Lever 2003. Naturalized Amphibians and Reptiles of the World. Oxford University Press, New York; Ernst and Barbour 1989. Turtles of the World. Smithsonian Press, D.C.). *Pelodiscus sinensis* is the most common turtle species bred in turtle farms in Asia (Haitao et al. 2008. Oryx 42[1]:147–150. They are exported to United States and are often sold in Asian food markets of New York City. Here, we report winter survivorship of an individual *Pelodiscus sinensis* in New York City.

We captured an adult male *Pelodiscus sinensis* at Windmill Pond, Alley Pond Environmental Center, Queens, New York (40.4542°N, 73.4516°W) (Fig. 1). Photographs were verified by Balazs Farkas, Hungarian Natural History Museum, Budapest, Hungary. Windmill pond is approximately 0.4 ha, 1.5 m deep, muddy-bottomed, and has abundant aquatic vegetation. Non-native *Trachemys scripta elegans* are the most common turtles in this pond, followed in abundance by native *Chelydra serpentina* and *Chrysemys picta*. Turtle trapping was conducted in this pond starting in 2007 for a long term study. The *P. sinensis* was captured on 24 July 2009 (carapace length = 238 mm; plastron length = 172 mm; weight = 1620 g) and recaptured on 27 July 2010, essentially unchanged. The turtle was captured in a baited hoop net on both occasions. The recapture site was less than 10 m from the original capture site. The turtle was photographed on each capture and we confirmed it as the same individual based