Hum Ecol (2016) 44:751–764
DOI 10.1007/s10745-016-9864-3

Bound Eagles, Evil Vultures and Cuckoo Horses. Preserving the Bio-Cultural Diversity of Carrion Eating Birds

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Published online: 9 November 2016

Abstract Vultures and eagles are large and impressive raptors that have a special role in the symbolic lore of local communities worldwide. We examine species folk names, everyday aphorisms, place names, local stories, ceremonies and folklore in modern Greece to demonstrate ways local communities conceptualize emblematic raptor species. As populations of these species are reduced or become extinct, local knowledge about them also disappears. On the other hand, conservation campaigns are mainly restricted on vultures' sanitary services and ecotourism potential, often overlooking intangible values that are more stable and deeply rooted in local culture. Traditional ecological knowledge, local values and perspectives should be incorporated in reconstructing raptor public awareness profiles by modern conservation science for effective participatory conservation policy for these endangered species worldwide.

Keywords Cultural Ecology · Greece · Raptors · Folklore · Ethno-ornithology · Egyptian vulture · Griffon vulture · Golden eagle · *Gyps fulvus* · *Neophron percnopterus* · *Aquila chrysaetus*

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Introduction

Until recently, most vulture species were common and widespread, well adapted to anthropogenic ecosystems and benefiting from human farming practices (Houston 2001; Olea and Mateo-Tomás 2009). However, global declines in vulture populations are now widely reported, most prominently the Asian "vulture crisis" due to a lethally toxic veterinary drug (Prakash *et al.* 2003; Sekercioglu 2006). Multiple threats to these large raptors include poisoned baits, poaching, the decline of extensive livestock farming, EU laws relating to carcass and animal byproducts disposal, and large scale land use changes such as wind farm development (Green *et al.* 2004; Donázar *et al.* 2009; Margalida *et al.* 2010; Ogada *et al.* 2012). At the same time their charismatic features, such as their size and fascinating behavior, have led to wide support for projects designed to protect them, e.g., supplementary feeding and captive breeding for population reinforcement and reintroduction, combined with public awareness campaigns that focus mainly on their sanitary services or advertise them as ecotourism attractions (Buijs *et al.* 2012; Cortés-Avizanda *et al.* 2016; Sergio *et al.* 2006).

Coexistence with humans has created an associated cultural history with positive symbolic values, such as sky burials in Tibet (Maming and Xu 2015) or Zoroastrian "towers of silence" in India and Persia (Cocker and Tipling 2013). However, some negative associations are highlighted by terms such as "vulture capitalist," "leave them to the vultures" or "waiting like vultures," while "vulture funds" are now circling the carcass of the Greek economy.

In continental Greece the dramatic declines that have led to all vulture species being listed as threatened (Handrinos 2009) as well as the cultural significance of the raptors for rural communities motivated our research. We included the golden eagle in our study because of its close association with vultures in Greek culture. We present the rich cultural

significance of vultures and the golden eagle through an examination of language, place names, folklore, and rituals.

Methods

We conducted fieldwork in 1998 and during 2000–2015 in mainland Greece concentrating on the recently extinct bearded vulture (*Gypaetus barbatus*), the black vulture (*Aegypius monachus*), still breeding but only in the Dadia-Lefkimi-Soufli Forest National Park (19–28 pairs), the griffon vulture (*Gyps fulvus*), with five colonies and 30 pairs spread across the mainland, the Egyptian vulture (*Neophron percnopterus*) whose population is estimated at less than 12 pairs with negative trends, and the golden eagle (*Aquila chrysaetus*), now listed as endangered (Handrinos 2009; Sidiropoulos *et al*. 2013; Velevski *et al*. 2015).

To evaluate the existing literature and gather ethno-ecological data we visited core foraging sites around confirmed breeding locations during the last 30 years where historically all four vulture species and the golden eagle coexisted (Sidiropoulos *et al*. 2013). These areas are characterized by landscapes sculpted by centuries either of sedentary villagers' practices or transhumant Vlach and Sarakatsani shepherds, whose large flocks moved seasonally between mountain summer pastures and extensive lowland grasslands (Wace and Thompson 1914). Similar systems elsewhere in the Mediterranean have been described as "heaven for raptors" (Bignal 1991). The Epirus region in NW Greece was chosen as a focal area because it has recently lost all vultures as breeding species and the remaining golden eagle populations are in steep decline.

We collected local bird names from published Greek lists (mainly Apalodimos 1993; Dimitropoulos 1982; Handrinos and Dimitropoulos 1982; Vallianos 1979; Zachariou-Mamaligka 2011), the unpublished Modern Greek Dialect Notes of the Academy of Athens, references in village folklore monographs, other sources (e.g., Sakoulis 2012; The return of the Neophron) and field research (Table 1). The current use of names was verified during interviews with local informants. In total we conducted 156 interviews: Tzena-Pinovo mountains, Central Macedonia (1998 and 2003: 41 interviews); Zagori municipality (2006: 25 interviews) and Ioannina town, Epirus (2012: 15 interviews, 2014: 15 interviews); Kalampaka and Trikala towns, Thessaly (2012: 15 interviews, 2014: 15 interviews); Dadia village and Soufli town, Thrace (2012: 15 interviews, 2014: 15 interviews). Interviews during 1998–2006 in rural areas focused on shepherds and elders as key informants. Interviews during 2012 and 2014 were in urban environments (with the exception of Dadia village) and interviewees included municipality or state employees in forest services, environment, rural development and veterinary departments, education, as well as hunting associations, forest and agricultural cooperatives, ecotourism, and construction.

We conducted archival and field research on bird related place names in two montane national parks in the Epirus region, NW Greece: the North Pindos National Park (hereafter N Pindos NP) and the Tzoumerka-Peristeri Mountain and Arachthos Gorge National Park (hereafter Tzoumerka NP) using local maps, Hellenic Military Geographical Service maps (scale 1:50.000) and commercial topographic maps (e.g., Anavasi editions). We assume raptor place names derive from the historically recent presence of the species and are therefore likely assigned to sites core to their range requirements (e.g., close to nesting areas). Since golden eagles are widespread and maintain mutually exclusive territories (Watson 2010), we tested the regularity of spacing by analyzing the nearest Neighbor Distances (NNDs) between place names with the G-test (GMASD) (Brown 1975; geometric mean of NNDs squared/arithmetic mean of NNDs squared). The G-test range is 0 to 1 and values <0.65 indicate randomness, higher values regularity, which is the typical for eagle populations. We excluded only one place name due to its proximity (>1.200 m.) that may signify alternative sites for the same territory. The only comparable species the place names may refer to, the Bonelli's eagle (*Hieraaetus fasciatus*), has never been recorded in high numbers in the two areas and it is unlikely that the term *aetòs* was frequently assigned to it. Currently, Bonelli's eagle has a more coastal distribution (Handrinos 2009).

Recordings of local sayings, personal experiences, beliefs and rituals from the twentieth century to present were based mainly on literature and the archives of the folklore departments of the universities of Ioannina and Athens (student manuscripts 1966–1986), the Hellenic Folklore Research Centre of the Academy of Athens, and the Kostas Lazaridis Cultural Foundation, as well as our interviews.

Results

Folk Names

We collected 106 local bird names, which we assigned to one of three categories, as proposed by Goudi (2011): i) descriptive: referring to morphological, physical or behavioral characteristics (e.g., size, color, diet, onomatopoeia etc.); ii) zoomorphic: referring to the generic bird name or comparing it to other animals; and iii) anthropomorphic, i.e., representing birds as persons (real or mythical), or relating them to religion, taboos or rituals (Table 1). In cases where names could be placed in more than one category we used a hierarchical rule such that anthropomorphic outranks descriptive which in

turn outranks zoomorphic. For example, the names *mávro órnio* (black vulture) or *Asprogérako* (white hawk) are categorized as descriptive, because they contain information about colors, while cuckoos' horse falls in the anthropomorphic category as it is closely related to spring rites of passage (Stara *et al*. 2014). In ambiguous cases we used a term's literal meaning, e.g., words that refer to odor are interpreted as synonymous to smelly rather than filthy or dirty.

The majority of bird names collected (~60%) are descriptive (Fig. 1) and refer especially to color, diet and behavior (Table 1). Black and bearded vultures have the fewest folk names while the Egyptian vulture has the most (22), related with its white color, alimentary habits, seasonal migrations, and metaphors of the bird as a cheese maker, probably because of its habit of frequenting places related to dairy production.

Local names also mirror past abundance and distribution of species. We found that the current shrinking range of the Egyptian vulture in mainland Greece is followed by a decline in the use of its local names, particularly outside rural societies (only four local names were recorded in the interviews of 2014) (Fig. 2).

Place Names

We found an abundance of place names in the N Pindos and Tzoumerka NPs related to former abundance and diversity of raptors: bearded vultures were nesting in both areas until the 1980s, two large griffon vulture colonies persisted until the 1990s, while Egyptian vultures, which were nesting in tens of pairs, stopped breeding in the area in 2012. Nowadays griffons and Egyptian vultures visit the area only during summer and autumn. More vulture-related names are found in Tzoumerka NP, where available habitat and food remain plentiful (Table 2).

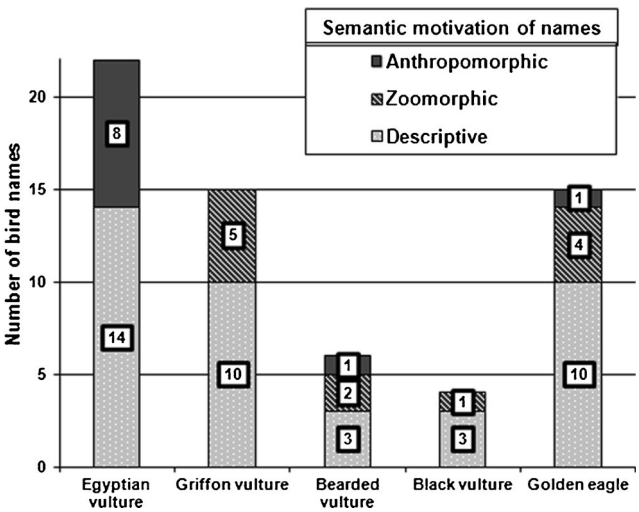

Fig. 1 Local names of Egyptian, griffon, black and bearded vulture and the golden eagle

The presence of eagle-related place names can be characterized as widespread with a uniform distribution in Tzoumerka NP and the southwest of N Pindos NP. Mean NND for golden eagle place names was 6.12 km (±1.85 km, range 3.82 – 9.61 km, $n = 20$) and the GMASD statistic was 0.85, indicating a highly regular distribution (Fig. 3). However the golden eagle population has also declined here, with fewer than 3–5 active pairs at each national park. The absence of eagle place names in the area of Vlach communities between the towns of Konitsa and Metsovo, where the species is still present, is related both to less archival material found there and to less intensive fieldwork.

Local Beliefs, Rituals and Magic Ceremonies

In most folk tales, vultures and eagles are represented as shepherds who were transformed to birds, usually in moral, religious or magical contexts. Transformations to vultures are related to curses and punishments, while those to golden eagles represent divine mediation. The golden eagle is regarded as blessed and its most common folk name all over Greece is *stavraetós*, literally "eagle of the cross."

Golden eagle names are also used as synonyms for guerilla fighters in the 1821 War of Independence and later WWII partisans (Granitsas 1921). In folk songs dying heroes often call eagles to take their soul to heaven and consume their corpse. On the other hand, vultures are often characterized as ugly birds with a range of negative morphological features and behaviors. Phrases like "you cut your hair like a griffon," or "she has legs like a griffon's," indicate an undesirable physical presence and a negative image; "She is white like an Egyptian vulture," which denotes beauty, is a notable exception. In everyday language vultures are anthropomorphized as gluttonous, illiterate, dimwitted and gullible, and unsophisticated people, especially those living in isolated mountain areas, are often referred to as "vultures." Nevertheless vultures are also characterized as harmless and useful birds that assist shepherds in locating lost livestock, contrary to eagles, which are deterred from preying on livestock, often through magical practices.

We also found rites related to the Egyptian vulture as a herald of spring. In Epirus people call Egyptian vultures "cuckoo's horses" believing that they carry "lazy" cuckoos from Africa on their backs in the spring. The first sight of Egyptian vultures is a good omen regarding good health, success, and productivity in several areas (Table 3).

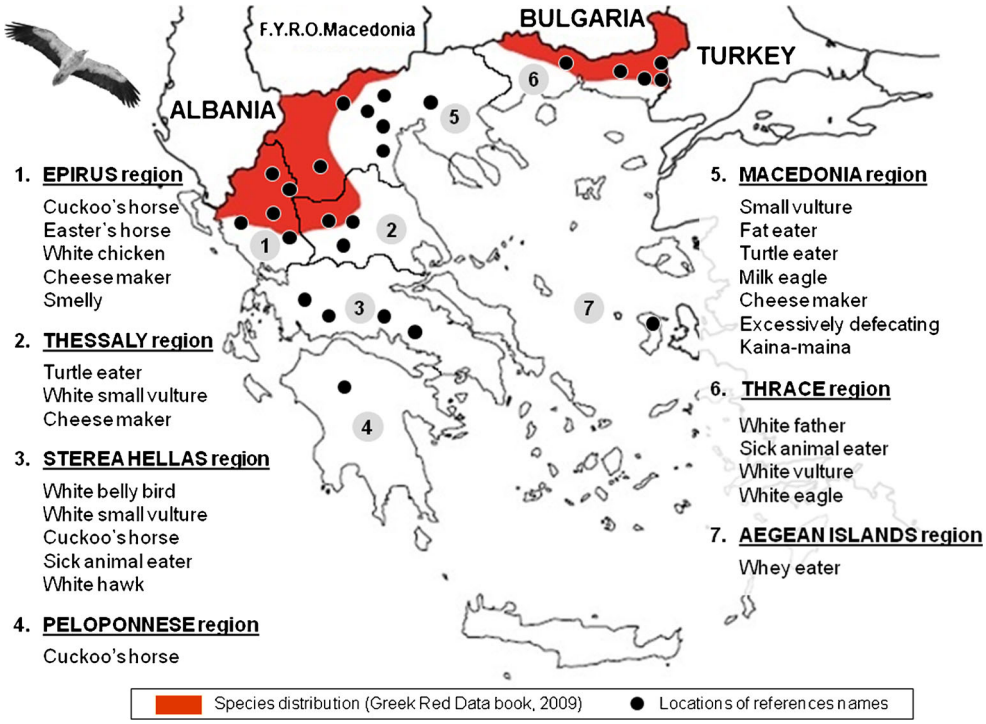

Fig. 2 Location of Egyptian vulture local names per geographic region and species distribution according to Greek Red Data Book (2009)

Discussion

Folk Names

Folk name richness reflects the linguistic diversity of the inhabitants of the Greek mountains, and a bird can have more than one name in one geographical region. Some are foreign, sometimes Hellenized, as a result of historical population movements of different ethnic groups (Campbell 1964; Wace and Thompson 1914). The golden eagle is known throughout the country by its ancient Greek name *aetós*, and the griffon vulture preserves its ancient name *gyps* in the current form of *gýpas*. Both are found in conjunction with many other popular names. On the other hand, the bearded vulture is no longer called *Phoene* and similarly the names *Aegypius* and *Neophron* remain only in scientific species terminology (Thompson 1966).

It is often not possible to create one-to-one correspondence between popular and scientific names (Cotton 1996). Characteristic is the overall confusion between eagles and vultures, both in classical texts and in modern spoken language. Following the rule of similarity, all large raptors can be called *aetós* (Thompson 1966). Additionally, under the rule of affinity, species are grouped based on communal presence, habitat and behavior (Berlin 1973; Birkhead 2008; Brown 2010; Levi-Strauss 1966). Thus, griffon vultures are considered immature eagles in western Greece, while even the raven, because of its scavenging, is locally called "vulture." Local names also reveal attitudes towards raptors, e.g. *skanítes,* meaning filthy, is a negatively charged name that refers to all vultures except the bearded, whereas the name "eagle of the cross" is a euphemism for a harmful bird. Similarly the term "cuckoos' horse" for the Egyptian vulture is related to the bird's migratory habit and classifies it locally with emblematic migratory birds, such as cuckoos, swallows and storks, not with scavenger vultures. Its arrival from Africa in the spring, especially on the 25 March War of Independence anniversary and Orthodox Christian day of Mary's Annunciation, is particularly auspicious (Stara *et al.* 2014).

Place Names

Place names indicate past species distributions, often of currently endangered species (Evans *et al.* 2012). Populations of golden eagle that persist in the Pindos massif tend to be regularly distributed in suitably continuous habitats and have exclusive territories that can be held over long periods of time by successive pairs (Watson 2010). We found the average eagle place name NND is below the range of values reported for actual populations (6.5 to 11.5 mean NND in six studies; review in Watson 2010) and NE Greece (9.3 Hallman 1980, cited in Watson 2010; 8.47, Sidiropoulos 2012). The G-test for these studies ranges from 0.60 to 0.89, so the 0.85 found in this reconstructed population is likely for an eagle population occupying continuous montane terrain. Lower NNDs (and therefore higher densities) may be attributable to actual higher

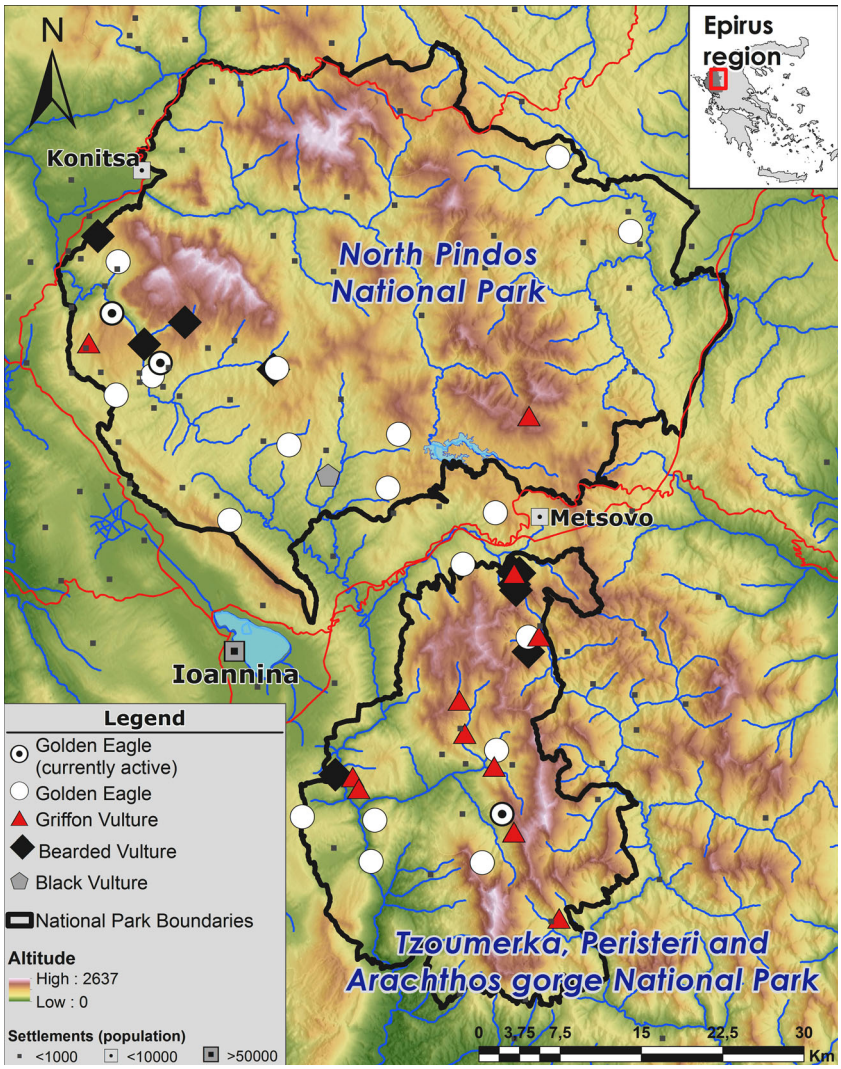

Fig. 3 Location of golden eagle and vulture place names in North Pindos and Tzoumerka - Peristeri - Arachthos national parks

densities in the past when high livestock densities provided an ample food supply, and may also reflect ranges abandoned and reoccupied intermittently because of differences in territory quality, past and present eagle abundance over wider regions, human disturbance, or high persecution rates after extensive livestock depredation (Watson *et al.* 1992). Both national parks in this case would have hosted up to 20 eagle territories in the recent past.

The name of the popular tourist scenic overlook *Oxyá* in the world famous Vikos gorge (UNESCO geopark 2010) in N Pindos NP is another example of the persistence of place names. The word derives from the ancient Greek adverb *oxýs* (strong, impetuous, rapid agile) and is one of the local names for the bearded vulture. The last observation of a bearded vulture in the area was in 1988 (Haritakis Papaioannou, personal communication), while the last shepherd who accurately named it as *oxyá*, died in 2007. Today locals fail to recognize the place name as a reference to the bearded vulture but rather associate it with the homonymous word for beech trees (*Fagus* spp.) even though they do not grow in Vikos (Stara *et al.* 2014). Other occurrences of the place name *Oxyá,* probably also referring to historical bearded vulture nest sites, are widespread in the mainland massif, as well as the homonymous Ionian island, which was home to a well known but recently abandoned griffon vulture colony.

Also in N Pindos NP, the village of Tservári, probably derived from the local name for griffon vultures, *tserviá* (still in use in areas adjacent to the Kalamas River and Pogoni Province). The last colony of griffon vultures in the area, 5 km to the east of the village, disappeared in the 1990s. However the village was renamed as *Elafótopos,* literally "land of the red deer," in 1928 under the Hellenization of 'foreign' place names throughout the country. The precipitous landscape is highly unsuitable habitat for red deer and there are no historical records of its presence there. However, red and roe deer have a special place in Greek folklore and are regarded as "noble," as divine messengers and

voluntary sacrifices (Bogkas 1956). Linguists and local scholars support the etymological derivation of the word *Tservári* from the Aromanian *cerbu*, itself deriving from the Latin *cervus* (Oikonomou 1991). When we proposed an alternative explanation of their village's original name to locals as expected they preferred the red deer as a symbol of their village.

The rarity of place names referencing black vulture is explained by the rarity of the species in Pindos even in the last century (Reiser 1905). Surprisingly, Egyptian vulture place names are also absent, although we interpret this as a consequence of the birds' habit of nesting close to shepherd's huts and settlements, areas already with a multitude of other names (Martin 1995).

Local Beliefs, Rituals and Magic Ceremonies

Folklore and beliefs surrounding raptors generally interpret their behavior as stemming from the persistence of a person's human habits after transformation into a bird. Often transformation into an eagle is the result of divine forgiveness, while, similar to other Balkan traditions, transformation into a griffon is a punishment (Sušić and Grubac 2002). Moreover, folk traditions do not credit 'filthy' vultures with eating human flesh, but rather 'powerful' eagles, possibly reflecting ancient beliefs that eagles carry the souls of dead heroes to heaven (Cocker and Tipling 2013; Thompson 1966; Watson 2010). The eagle's most common conceptualization is as a symbol of strength, power and authority of gods, kings and emperors and the emblem of Zeus, father of gods in the Greek pantheon (Collar *et al.* 2007; Houston 2001). In contemporary Greece the eagle represents modern heroes, handsome, clever, dashing, gallant and free men, or even the bridegroom in wedding songs. Historically, the eagle was considered a symbol of *kléphtes* (brigands) in the national myth of heroic struggles for Greek independence. Brigands, like eagles, lived in inhospitable, dangerous mountains isolated from society and were familiar with violence. This idealized national character, again invoked during World War II, is identified with nomadic or semi-nomadic pastoral groups who lived in the Balkans and valued their independence from local or national government (Damianakos 1987).

The eagle is also used by the Greek Orthodox Church as a symbol of grandeur and spirituality. The image of an eagle holding a snake in its talons representing the eternal struggle of good and evil is common on wood-carved altar screens throughout Greece (Cooper 1979).

Contrary to these majestic images, vultures are often characterized as ugly birds - *áschemos* in Greek (literally "with no shape"). Steward (1991) points out that the term refers to that which is dangerous, unclean, abnormal and insulting to moral order. The griffon is often depicted as gluttonous (particularly in contrast to fasting as a sign of religious purity), scavenging and dirty (Levi-Strauss 1966; Mundy *et al*. 1992).

Vulture parts are often sold in traditional medicine markets even today (Ogada *et al.* 2015) as they are thought to transmit the birds' acute vision and immune defenses, as well as facilitating communication with ancestors (Houston 2001; Mundy *et al*. 1992; Pollard 1977; Sánchez-Pedraza *et al*. 2012; Thompson 1966). In Christian Greece, however, the association of death with evil and many Biblical stories that associate vultures with wars and catastrophes (e.g., Ps 79, Ode 2:24, Gn 40:19) have led to the perception of vultures as ill-fated and evil creatures (Chatzimihali 1957). Thus, contrary to cosmologies where vultures ferry souls to the afterlife, the exposure of a corpse is considered a sin threatening both the soul of the deceased and the living, to whom the vengeful spirit is a potential danger (Houston 2001; Mundy *et al*. 1992; Schüz and König 1983) (Table 3).

In stark contrast, the migratory Egyptian Vulture is associated with the arrival of spring, a time of year for important rites of passage in rural communities. The local name of cuckoos' horse reflects role of the horse as a magical mediator (Cooper 1979; Goudi 2011). In Greek popular culture the holy days of the knight saints George and Demetrius, April 23 and October 26 respectively, mark the agreement and completion of agricultural contracts and flock movements to and from summer pastures.

As birds of powerful symbolism, both eagles and vultures are often used to construct magical and ritual objects (Houston 2001; Mundy *et al*. 1992; Watson 2010). Eagle feathers are used on scarecrows, adorn headdresses for ceremonial dances, while flutes made of eagle or vulture bones are widespread (Mundy *et al.* 1992; Porter and Suleiman 2012; Schüz and König 1983). Flutes are identified with pastoral life in Greece, and those made from eagle and vulture bones are also talismans and status symbols. However, a cleansing ritual was necessary to allow the safe use of an object created from such powerful, and in the case of vultures, filthy creatures. As described by Chatzimihali (1957), the bone is placed inside a church in the sanctuary, or even under the altar, for 40 masses. It is then perforated with a nail or spike, rubbed and boiled with ashes to smooth and whiten it, and decorated, usually with linear carving (Fig. 4). A few of our older informants in Zagori possess such flutes as family heirlooms, but none remembered the ritual.

Fig. 4 A raptor ulna flute in the Museum of Greek Folk Musical Instruments, Athens (right). "Dangerous vultures" are illustrated in the widespread popular image of the "good shepherd" (left)

Conclusions

The recent global "vulture crisis," notably among old world vultures in India but also in Africa (Ogada *et al.* 2015), the extinction and reintroduction of wild condors in North America, and the dramatic decline of all vulture species in the Balkans all highlight the need for immediate conservation measures worldwide. However, while threats look similar everywhere, conservation efforts should be locally tested and accepted. Unfortunately, there are examples of conservation programs that sideline community involvement, leading community members to feel they are subject to imposed "scientific hegemonic naturalism" (Buller 2004; Haen *et al.* 2014). Conservationists base their arguments mainly on the provision of ecosystem services (Mundy *et al.* 1992) while the lack of connection between wildlife and people is progressively increasing in western societies (Cortés-Avizanda *et al.* 2016; Margalida *et al.* 2014). At the same time the socio-economic collapse of many rural communities and subsequent dramatic changes in agricultural practices have directly impacted vulture habitats. In Greece, easy access to pesticides and an inadequate system of compensation for livestock damages caused by wild predators encourages the rampant illegal use of poison baits.

The, often overlooked, cultural heritage of vultures should be incorporated not only into public awareness campaigns, but also into species conservation action plans. Participatory conservation policies based on familiar cultural values and expanded to modern biocultural significance of species may be far more successful than international laws and directives aimed at protecting threatened species. Therefore we believe that intangible values provided by ethno-ornithological data could inspire modern conservation biology and motivate local communities to re-evaluate the preservation of their biodiversity alongside their local cultural heritage, creating a common ground where local communities and conservation scientists could develop participatory approaches for more successful conservation strategies.

Acknowledgments The authors thank Eleutheria Giakoumaki (Research Centre for Modern Greek Dialects), Aikaterini Polymerou-Kamilaki (Hellenic Folklore Research Centre), Maria Miligkou-Markantoni (University of Athens), Vassilis Nitsiakos (University of Ioannina), Victoria Saravia (Hellenic Ornithological Society) and the Rizarios Foundation/Kostas Lazaridis Cultural Foundation. We also thank our colleagues Jovan Andevski, Pavlos Andriopoulos, Ali Apturahman, Panagiotis Azmanis, Stratis Bourdakis, Dimitris Bousbouras, Antonia Galanaki, Theodoros Kominos, Pantelis Konstantinou, Charis Kourouzidis, Costas Missiakos, Costas Papakonstantinou, Pavlos Pavlidis, Nikos Probonas, Giannis Rousopoulos, Dora Skartsi, Giannis Theodoropoulos, Dimitris Vasilakis, Stavros Xirouchakis, and the Hellenic Society for the Protection of Nature for their contributions to our lists of birds folk names; the linguists Maria Vrahionidou and Maria Goudi, the historians Theofanis Dasoulas and Grigoris Manopoulos for their comments on etymological issues; George Handrinos, José Antonio Donázar and John M. Halley for their comments on our first manuscript; Dimitris Bokis for permission to use his unpublished material; Garyfalia Theodoridou for her comments; Maria Ganoti, who inspired this research; the Museum of Greek Folk Musical Instruments, Athens, Alkiviadis Betsis for the map design, and anonymous reviewers for their valuable comments. Lastly we thank all local participants for their collaboration, time and hospitality during fieldwork.

Compliance with Ethical Standards

Funding This study was not funded by a specific grant, but was conducted in conjunction with the projects mentioned below.

Conflict of Interest Kalliopi Stara collected data during her participation in the Balkan Vulture Action Plan project (2009) funded by Black Vulture Conservation Foundation, Frankfurt Zoological Society and Hellenic Ornithological Society and the LIFE project "Urgent measures to secure the survival of the Egyptian vulture (*Neophron percnopterus*) in Bulgaria and Greece" (LIFE10 NAT/BG/000152) implemented by BSPB, HOS, WWF Hellas and RSPB, funded by the European Union and co-funded by the AG Leventis Foundation and the European Commission. Lavrentis Sidiropoulos received grants from AG Leventis Scholarships Foundation during his MRes thesis (2012) and Mike Madders Field Research Awards, Natural Research LTD (project Golden eagle ecology in the Rhodope Mountains, Bulgaria and Greece, 2012 with Mrs T. Yotsova - Angelova and support from WWF-Hellas). He also collected field data during his participation in the Balkan Vulture Action Plan projects (2008–2010) funded by Black Vulture Conservation Foundation, Frankfurt Zoological Society and Hellenic Ornithological Society. Rigas Tsiakiris is a member of the scientific committee of the LIFE project "Urgent measures to secure the survival of the Egyptian vulture (*Neophron percnopterus*) in Bulgaria and Greece."

Appendix

Table 1 Local and official Greek (in bold) vulture and golden eagle names collected during the field work or found in the archives or literature

English common & scientific name	Greek common (in bold) and local names	Translation and rendition in English	Region	Word origin	Category	Source of name: 1 = field work, 2 = archives, 3 = literature
Bearder vulture (*Gypaetus barbatus*)	Chalinarás	Bridled (its "mustache" reminds bridles, used to stop it from feeding on people)	Aegean islands	Greek	Anthropomorphic	1,3
	Fálco, Fálca	Falcon	Sterea Hellas, Aegean islands, Crete	Latin	Zoomorphic	2,3
	Gypaetós	Bearded vulture (literary vulture eagle)	Official Greek name	Greek	Zoomorphic	1,2,3
	Klára	Bone breaker	Epirus, Sterea Hellas,	Greek	Descriptive	2,3
	Kokalás, Kokaliáris, Kokalítis	Bone eater	Epirus, Sterea Hellas, Aegean islands, Crete	Greek	Descriptive	1,2,3
	Oxyá	Strong, impetuous, rapid, agile	Epirus, Sterea Hellas, Peloponnese	Greek	Descriptive	1,2,3
Griffon vulture (*Gyps fulvus*)	Alatzás	Colorful	Aegean islands	Turkish	Descriptive	2,3
	Gymnokéfalo	Bare headed	Ionian islands	Greek	Descriptive	3
	Gymnolémis	Bare necked	Crete	Greek	Descriptive	1,3
	Gýpas, Dýpas, Gioúpas, Agioúpas	Vulture	Aegean islands, Cyprus	Greek	Zoomorphic	1,3
	Kanavós	Grey, whitish	Macedonia, Thrace, Aegean islands, Crete	Greek	Descriptive	1,2,3
	Kartáli	Raptor (from the expression "*kara talim*", literally black predator)	Thrace	Turkish	Zoomorphic	1,2,3
	Ornio, Orneo, Ornie, Aorniós, Górnio, Orno	Vulture	Official Greek name	Greek	Zoomorphic	1,2,3
	Skaniás, Skanítis, Skaneáda, Askanítis	Smelly, scummy, fetid, disgusting	Aegean islands, Crete	Greek	Descriptive	1,2,3
	Skára	A bird that prances	Sterea Hellas, Peloponnese, Aegean islands, Crete	Greek	Descriptive	1,2,3
	Skérbos, Skerbíni	Bald	Epirus	Latin	Descriptive	1
	Tzárva	Grey	Epirus	Slavic	Descriptive	2
	Tsérvo, Tsébro, Tsérbos	Related to red color	Epirus	Slavic	Descriptive	1
	Thrasiá, Thrása	Carrion eater	Crete	Greek	Descriptive	1
	Vitsílla	Eagle (literally white tailed eagle)	Crete	Latin	Zoomorphic	3
	Vúntur, Fúntur, Vultúrne	Vulture	Macedonia	Latin	Zoomorphic	1
Black vulture *(Aegypius monachus)*	Lykórnio	Wolf vulture	Epirus, Sterea Hellas, Peloponnese	Greek	Zoomorphic	1
	Mavrógypas, Mávro órnio	Black vulture	Epirus, Sterea Hellas	Greek	Descriptive	1,2,3
	Skanítis	Smelly, scummy, fetid, disgusting	Epirus	Greek	Descriptive	3
	Tziára, Tzárva	Grey	Epirus	Slavic	Descriptive	2

Table 1 (continued)

English common & scientific name	Greek common (in bold) and local names	Translation and rendition in English	Region	Word origin	Category	Source of name: 1 = field work, 2 = archives, 3 = literature
Egyptian vulture *(Neophron percnopterus)*	Akbaba	Literally white father, because it rescued Muhammad from the claws of the golden eagle. To express his gratitude the prophet gave it eternal life and endowed it with its white plumage	Thrace	Turkish	Anthropomorphic	1,2,3
	Alogo tis Paschaliás	Easter' horse	Epirus	Greek	Anthropomorphic	1
	Alogo tou kúku, Kukálogo, Alogókuko, Kúku t' álogu	Cuckoo's horse	Epirus, Sterea Hellas, Peloponnese	Greek	Anthropomorphic	1,2,3
	Asprólapos, asprólapas	White belly bird	Sterea Hellas	Greek	Descriptive	2
	Asprogérako	White hawk	Sterea Hellas	Greek	Descriptive	2
	Aspros gýpas, Aspro órnio, Aspro kartáli	White vulture	Thrace	Greek	Descriptive	1
	Asprokóta	White chicken	Epirus	Greek	Descriptive	1
	Aspropáris, Aspróparos	White small vulture	Official Greek name	Greek	Descriptive	1,2,3
	Aspros aetós	White eagle	Thrace	Greek	Descriptive	1
	Bátzos, Batzutiéra	Cheese maker	Thessaly	Vlach	Anthropomorphic	1,3
	Búrdu casháru	Cheese maker	Epirus	Vlach	Anthropomorphic	1
	Chelonás, Chilonás, Chelonofáis, Chelonofás	Turtle eater	Thessaly, Macedonia	Greek	Descriptive	1,2,3
	Galaetós	Milk eagle	Macedonia	Greek	Descriptive	1
	Kainátski, Káina máina,	Relater to onomatopoeia/acoustic bird's image (kai-kai) and with a forgotten ceremonial song on bird's first sight every spring	Macedonia	Slavic	Descriptive	1,3
	Kalantziáris, Kolantziáris, Kolianisiáris	Sick animals eater	Thrace, Sterea Hellas	Latin	Descriptive	1,3
	Mikró órnio, Orniáki, Mikrógypas, Mikró kartáli	Small vulture	Macedonia	Greek	Descriptive	1,3
	Kála t' kúklu	Cuckoo's horse	Epirus	Vlach	Anthropomorphic	1
	Skanítis	Smelly, scummy, fetid, disgusting	Epirus	Greek	Descriptive	3
	Slanárka	Fat eater	Macedonia	Slavic	Descriptive	1
	Tsirlatínos, Tsirletínos	Excessively defecating (from the word tsineas = droppings)	Macedonia	Pontic	Descriptive	1
	Tsiropinás	Whey eater	Aegean islands	Greek	Descriptive	3
	Tyrokómos	Cheese maker	Macedonia	Greek	Anthropomorphic	1,2,3
Golden eagle (*Aquila chrysaetus*)	Aetós, **Chrysaetós**	Golden eagle	Official Greek name	Greek	Zoomorphic	1,2,3
	Feggarovitsílla, Vitsílla fegaráti	Juvenile golden eagle with white patches (literally "moon vulture")	Crete	Greek	Descriptive	1,3
	Gomaraetós	Large sized eagle (literally" donkey eagle")	Epirus	Greek	Descriptive	1,2,3

Table 1 (continued)

English common & scientific name	Greek common (in bold) and local names	Translation and rendition in English	Region	Word origin	Category	Source of name: 1 = field work, 2 = archives, 3 = literature
	Karakús	Black bird	Thrace	Turkish	Descriptive	1
	Kartáli	Vulture (from the expression "*kara talim*", literally black predator)	Thrace, Macedonia, Aegean islands	Turkish	Zoomorphic	1,2,3
	Lagaetós, Lagoudéra	Hare eater	Epirus, Aegean islands	Greek	Descriptive	1, 2,3
	Lepouniárou	Hare eater	Epirus	Vlach	Descriptive	1
	Oxyá	Pang, strong, brash, fast, nimble	Epirus	Greek	Descriptive	1,2,3
	Pnigará, Pnigarobicílla	Strangler	Crete	Greek	Descriptive	1,3
	Púlos	Large sized bird	Aegean islands	Greek	Descriptive	3
	Sahín	Hawk	Thrace	Turkish	Descriptive	1
	Skarovitsílla	Eagle that prances	Aegean islands	Greek	Descriptive	1,3
	Stavraetós	Golden eagle (literally cross eagle)	Epirus, Thessaly	Greek	Anthropomorphic	1,3
	Vitsílla, Gitsílla,	Eagle (literally white tailed eagle)	Aegean islands, Crete	Latin	Zoomorphic	1,2,3
	Záitser	Hare eater	Macedonia	Slavic	Descriptive	1

Table 2 Zoonyms referring to eagles, griffon, black and bearded vultures in N Pindos NP and Tzoumerka NP

English common/scientific name	Zoonym	Nearest village name	Geographic unit	Translation & rendition in English	Reference
Golden eagle (*Aquila chrysaetos*)	Aetiá	Aetiá/Grevená	N Pindos NP	Eagle	Hellenic Military Geographical Service Maps
	Aetós	Flabourári/Zagori	N Pindos NP	Eagle	Zagori map, Anavasi editions
	Aetofoliá	Anthrakítis/Zagori	N Pindos NP	Eagle's nest	Oikonomou 1991; Stara and Tsiakiris, field work in Zagori, 30/6/2014
	Aetofoliá	Monodéntri/Zagori	N Pindos NP	Eagle's nest	Lazaridis 1977
	Aetofoliá	Tsepélovo/Zagori	N Pindos NP	Eagle's nest	Hellenic Military Geographical Service Maps
	Aetofoliá	Víkos/Zagori	N Pindos NP	Eagle nest	Oikonomou 1991
	Aetofoliá	Vítsa/Zagori	N Pindos NP	Eagle's nest	Sarros 1937
	Aetofoliá	Vradéto/Zagori	N Pindos NP	Eagle's nest	Lazaridis 1973
	Aetokoúkoulo	Megálo Pápingo/Zagori	N Pindos NP	Eagle's rock	Oikonomou 1991
	Aetoú to lithári	Leftokaryá/Zagori	N Pindos NP	Eagle's rock	Oikonomou 1991
	Aetoú to lithári	Trísteno/Zagori	N Pindos NP	Eagle's rock	Oikonomou 1991
	Orliakas	Ziákas/Grevená	N Pindos NP	Eagle	Valia Kalda map, Anavasi editions *The interpretation as eagle belongs to the authors*
	Aetós	Matsúki/Tzoumérka	Tzoumerka NP	Eagle	Stara and Tsiakiris, field work in Tzoumerka 2/9/2005
	Aitós	Melissourgí/Tzoumérka	Tzoumerka NP	Eagle	Stergiopoulos 1933

Table 2 (continued)

English common/scientific name	Zoonym	Nearest village name	Geographic unit	Translation & rendition in English	Reference
	Aetofoliés	Kaléntzi/Arachtos gorge	Tzoumerka NP	Eagles nests	Stergiopoulos 1933
	Aetofoliés	Melissourgí/Tzoumérka	Tzoumerka NP	Eagles nests	Giza 1974
	Foliá aetú	Mikró Peristéri/Peristéri mt	Tzoumerka NP	Eagle's nest	Tsiakiris, field work in Ioannina, October 2014
	Aetoráchi	Aetoráchi/Arachtos gorge	Tzoumerka NP	Eagle's ridge	Stergiopoulos 1933
	Aetoráchi	Chalíki/Peristéri mt	Tzoumerka NP	Eagle's ridge	Hellenic Military Geographical Service Maps
	Stavraetós	Votonóssi/Peristéri mt	Tzoumerka NP	Golden eagle (literally crossed eagle)	Hellenic Military Geographical Service Maps
	Trípa tou aetoú	Kostitsi/Arachtos	Tzoumerka NP	Eagle's nest (literally eagle's hall)	Stergiopoulos 1933
Griffon vulture (*Gyps fulvus*)	Tservári	Elafótopos/Zagori	N Pindos NP	The land of the griffon vultures	Oikonomou 1991 *The interpretation as the land of the vultures belongs to the authors*
	Vultúre	Miliá/Metsovo	N Pindos NP	Griffon vulture	Dasoulas 2012
	Cúrbili al órnili	Chalíki/Peristéri mt	Tzoumerka NP		Stara and Tsiakiris, field work in Tzoumerka 2/6/2005
	Gúva órnili	Vathýpedo/Peristéri mt	Tzoumerka NP	Griffon vultures cave	Fassoulis 1970
	Ornia	Syrráko/Peristéri mt	Tzoumerka NP	Griffon vultures	Dalaoutis 2005
	Ornia	Matsouki/Peristéri mt	Tzoumerka NP	Griffon vultures	Stara and Tsiakiris, field work in Tzoumerka, 3/9/2005
	Orniofoliá	Thodóriana/Tzoumérka	Tzoumerka NP	Griffon vulture's nest	Stara and Tsiakiris, field work in Peristeri 1/9/2005
	Orniofoliés	Anthochóri/Peristéri mt	Tzoumerka NP	Griffon vultures nests	Stara and Tsiakiris, field work in Peristeri 1/6/2005
	Orniolágada	Chouliarádes/Tzoumérka	Tzoumerka NP	Vulture's valley	Soulis 1932
	Ornióvrysi	Chouliarádes/Tzoumérka	Tzoumerka NP	Vulture's fountain	Soulis 1932
	Ournufuliés	Melissourgí/Tzoumérka	Tzoumerka NP	Griffon vultures nests	Stergiopoulos 1933
Black vulture *(Aegypius monachus)*	Tzára	Dóliani/Zagori	N Pindos NP	Black vulture	Zagori map, Anavasi editions
Bearded vulture *(Gypaetus barbatus)*	Kokaliáris	Tsepélovo/Zagori	N Pindos NP	Bearded vulture	Oikonomou 1991
	Kokaliáris	Skamnéli/Zagori	N Pindos NP	Bearded vulture	Map of the management plan for the community forest of village Tsepelovo
	Kokaliés	Ano Klidoniá/Zagori	N Pindos NP	Bones	Hellenic Military Geographical Service Maps
	Oxyá	Monodéntri/Zagori	N Pindos NP	Bearded vulture	Stara, field work in Zagori 25/8/2006
	Kókala	Anthochóri/Peristéri mt	Tzoumerka NP	Bones, thus Bearded vulture ' breaking bones area	Peristeri - Kakarditsa-Tzoumerka map, Anavasi editions
	Kókala	Chaliki/Peristeri mt	Tzoumerka NP	Bones	Stara and Tsiakiris, field work in Peristeri 1/6/2005
	Kokália	Anthochóri/Peristéri mt	Tzoumerka NP	Bones	Stara and Tsiakiris, field work in Peristeri 1/6/2005
	Oxyá	Anthochóri/Peristéri mt	Tzoumerka NP	Bearded vulture	Peristeri - Kakarditsa-Tzoumerka map, Anavasi editions *The interpretation as vultures belong to the authors*
	Trýpa tis oxyás	Anthochóri/Peristéri mt	Tzoumerka NP	Bearded vulture 's nest (literally Bearded vulture 's hall)	Stara and Tsiakiris, field work in Peristeri 1/6/2005 *The interpretation as vultures belong to the authors*

Table 3 Examples of source material and Folklore

Eagles and vultures in religious, thaumaturgy and moral contexts

In a humorous tale of Chios island (Dodecanese) griffon and Egyptian vultures, along with golden and Bonelli's eagles were all four companion shepherds, not managing well with the flock since instead of attending to it, they were filling their empty bellies with it (Madias 1915). In another story, the eagle was once a shepherd, constantly loosing lambs that when straying, were "eating into his heart", grieving him heavily. He begged God to turn him into an eagle and his prayers were heard. After his transformation, the eagle is revenging its lambs first eating their hearts (Politis 1965). Similarly, the eagle was once a rich crofter, hospitable and noble hearted, but with a niggardly and spiteful brother, who murdered him in his sleep. After the fratricide the noble brother was turned into an eagle that preys in his own goats and sheep, while the kinslayer, killed shortly after by other shepherds, was turned into a vulture feasting on carrion (Karalekas 1968). According to other narratives vultures used to be sheep, but the inhospitable behavior of their owners towards some wandering preaching saints was the trigger of a curse that transformed them into vultures (Granitsas 1921; Loukopoulos 1930). On the contrary in a popular tale of Christ's days on earth, Jesus stamped a cross on the eagle's wings because it was able to retrieve a cross fallen in raging waves. As a reward, the bird became blessed and bestowed upon fair game rights on select meat from fowl, lambs and goats. Accordingly its most common folk name allover Greece is *stavraetós*, literally "eagle of the cross" (Loukopoulos 1940).

Eagles in heroic folk songs

In several dirges such as the Pontic *aeténtz eperipétanen* (literally "an eagle was soaring"), the eagle carrying a young man's arms, while refusing to hand them over, points to where the fallen hero lies:

"*That which I hold will not give you,*
but I shall tell you where he lies.
In that ridge beyond the firs,
black birds are feasting on him
and white on him descending…".

In another, the fallen *klèftes* (irregular guerillas fighting against the Ottoman administration) beg the eagles to "*eat, eagle my youth, eat my leventià* (quality of men and women associated with generosity, pride, bravery, valiance and responsibility) *to grow yards of wings and span of talons…*" so as not to be consumed by vultures.

Magical bounds for eagles

Eagles were magically bound to protect the vulnerable lambs and kids of the flock and a spell aimed in enhancing the effectiveness of the ritual. Saint Mamas, who is considered in folk cult as the shepherd's patron, was appended as metaphysical mediator. The rituals are still practiced in Crete and Cyclades islands.

Version I:

According to one of the spell versions three virgins called Maria twine secretly three silken threads of different color. At midnight, the shepherd takes off his shirt and naked, ties the threads on the bough of an oleaster that is not visible from sea, reciting the chant and the name of the flock's owner:

"*… Lamb and kid I had, nurtured on wild mountain, in marble trough I watered it, locked it in silver casket; and over flew the fair bird, the wicked bird and swooped it; no baptized man, no christened man, given to God was there, to knot red thread for me, that no sea beholds. All fowl of the sky, I knot, over and over*".

(Oikonomidis 1988 "*The eagles bound*", a spell from the Cyclades island of Naxos).

Version II:

The spell protects the young of the flock from predators. Cast on a Friday, with a gibbous moon, at midnight:

"*Saint Mamas was the first shepherd in the world, my star and moon and earth and whole cosmos, what you have seen, what you have heard wandering the world? Seven we saw, seven we heard wandering the world, we saw down in Falio's hay meadow a thousand horses, bound with chain and nails nailed, thus the livestock of … and of …, and of… (*flock owners names) *should be bound*
the dog with the bitch
the tom with the cat
the eagle with the eagless
the raven with the raveness
not to look upon the flock, the wild (ones) and harm them
thus to be bound and from the animals (the wild predators) kept away".

(Saint Mamas' spell as narrated by Eleni Skoula. Interview to Dimitris Bokis in Anógia, Crete in June 2002. Unpublished with the permission of the researcher).

The Egyptian Vulture passage rituals

The first sight of Egyptian Vulture is a source of divination: if seen before breakfast it beats people and the same applies with the calls of cuckoo, swallow or broody. To overwhelm it, people make sure to get out after breakfast, hoping to good health till next spring. They also overturn a stone and if sheltering ants or other insects they secure magically prosperity and growth for their flocks. Similarly if the bird is seen flying from above the yoghurt will set well and if seen from below it will fail (Bogkas 1956). In the villages of Voras mountain, in Central Macedonia, the first sight of the Egyptian Vulture in spring should be done by a shepherd standing, and not sitting or lying under a tree, otherwise, he will be ineffective and slow over the year, instead of nimble and energetic. Children's carols are also sung on first sight describing Egyptian vulture as friendly horse that brings them Easter presents: colorful socks and new shoes.

Non-burial in ancient and modern Greece

Highly relevant is the example from Sophocles, on the conflict between Antigone and Ismine for the burial of their slain brother Polynikes (Mihailaris 2004). In modern Greece, the trespass of non-burial is confirmed in solemn vows, like the oath of the initiates of the *Philikí Etairía*, formed in 1814 and aiming to the Greek Independence from the Ottomans: "*If I may forego my vow and do not bear myself as a loyal Patriot and genuine Dedicate, I yield my body to all torments and grievances of this transient life and to a cruel and dishonorable death, not to be granted burial and the blessings of our Holy Church, but to be left as fodder to wild beasts and vultures; My soul I submit to eternal doom in the hands of demons…*" (Mihailaris 2004, *p. 216).*

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