Greek *khrόmis* between sound and smell. Anthropozoology of a fish

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ABSTRACT
The Greek and Latin world viewed *khrόmis* as essentially a vocal fish and a highly esteemed one, which does not match the identification, provided by Rondelet and ratified by Linnaeus, with the Mediterranean damselfish, *Chromis chromis* (Linnaeus, 1758) (also extended to the other pomacentrids of the genus *Chromis*). Trying to explain the reason behind Rondelet’s misidentification deepens our understanding of the anthropozoology of the fish actually called *khrόmis* by the ancients (in fact a sciaenid, most likely the shi drum, *Umbrina cirrosa* (Linnaeus, 1758)), while at the same time providing a possible interpretation to *immunda chromis* (lit. ’unclean *chromis’*), an obscure syntagm found in Ovid’s (?) *Halieutica*.

RÉSUMÉ
Le grec *khrόmis* entre son et odeur. Anthropozooologie d’un poisson
Le monde gréco-latin considérait *khrόmis* essentiellement comme un poisson vocal et très apprécié, ce qui ne concorde pas avec l’identification, fournie par Rondelet et ratifiée par Linné, avec la castagnole méditerranéenne, *Chromis chromis* (Linnaeus, 1758) (étendu aussi aux autres pomacentridés du genre *Chromis*). Essayer d’expliquer les raisons de la mauvaise identification par Rondelet permet d’approfondir notre compréhension de l’anthropozoologie du poisson effectivement appelé *khrόmis* par les anciens (en fait un sciaenidé, vraisemblablement l’ombrine côtière, *Umbrina cirrosa* (Linnaeus, 1758)), tout en fournissant en même temps une possible interprétation de *immunda chromis* (littéralement ’chromis impur’), une expression obscure qu’on trouve dans les *Halieutiques*, poème attribué à Ovide.
INTRODUCTION

The ancient Greek and Latin names of aquatic animals are mainly constructed as descriptive terms with metaphorical reference to a phenotypical, eco-ethological or generally cultural feature perceived as essential to the identity of the named organism (Bodson 2009, 2012, 2014; Guasparri 2010). This is not surprising, being one of the major naming patterns found in ethnobiological nomenclatures cross-culturally (Berlin 1992: 35). As to the nomenclatures in question, the use of descriptive ethnobiological names (hereafter ethnobionyms) is particularly high, which makes it especially engaging to investigate their linguistic morphology in search for the “referential constraint” linking the name to its biological counterpart (Guasparri 2007: 74; 2013: 350). Indeed, if names can generally tell us a great deal about how the members of a society relate to a given animal (e.g., Blanchard 2015), this is notably true for descriptive ethnobionyms, which can be explained on the basis of a similarity between a metaphorical subject (i.e. the organism that needs to be identified or definiendum) and a metaphorical predicate (i.e. the domain of experience that is familiar or definiens). Detecting this similarity and therefore both the definiens and the definiendum can be more or less tricky. Indeed, the more the metaphorical predicate is universal (for example when it coincides with the parts of the human body), the more the metaphor encoded in the name will be transparent or clear even for us – cf., for instance, a mollusk with an elongated shell called “finger” (Fig. 1); the reverse is true in the case of metaphorical implications related to more culture-dependent domains, such as ritual, magic, etc. – cf. a flat fish called by the name of a musical instrument (Fig. 2).

UNEARTHING THE ANTHROPOZOOLOGY OF GR. KHRÓMIS

It is particularly in these latter cases – the more culture-dependent ones – that the analysis of descriptive ethnobionyms may allow us to reconstruct how the members of any culture, even a dead one, perceived, and ultimately lived, their unique anthropozoological reality (although only limited bits of it can be disclosed). And since in our case such a reality can be only reconstructed through written sources, our knowledge of how the ancients perceived an animal can be useful in fields as different as philology (i.e. the “correct” interpretation of the ancient texts) or scientific nomenclature (or at least its history). Gr. khrómis is a good case in point.

This is a descriptive ethnobionym whose definiendum is a fish described by Aristotle (HA, 535b, 17) as producing a sort of grunting noise (grúlismós), as having the most sensitive hearing (Aristotle HA, 534a, 9) and suffering in winter because of the stone in the head (Aristotle HA, 601b, 30) – what biologists call ooliths. A praised fish according to Ananius (ap. Ath. 7, 282b), khrómis is the best in spring. The animal is traditionally identified with a member of what biologists call Sciaenidae, a taxonomic family also known as “croakers” or “drums” because of the sound they produce (Ramcharitar et al. 2006). The members of this taxon, whose multi-branched swim bladder is used as a resonating chamber, are actually considered as “probably the most active sounds producers among fish” (Ramcharitar et al. 2006: 1426). Significantly enough, these fish have “exceptionally large
Fig. 3. — Shi drums (Umbrina cirrosa (Linnaeus, 1758)) in their natural environment (Image courtesy of Laguna Project).

Fig. 4. — Brown meagres (Scaena umbra Linnaeus, 1758) in their natural environment (Image E. Sáez Goñalons & V. Martínez Moll, wikimedia.org; CC BY 3.0).
Guillaume Rondelet, however, the other major French ichthyologist of the Renaissance, reached a different conclusion from his contemporary and colleague by suggesting another species: the Mediterranean damselfish, *Chromis chromis* (Linnaeus, 1758) (Rondelet 1554: 152f). The divergence between the two naturalists is meaningfully represented in iconographical terms by Ulisse Aldrovandi, as the original captions to the engravings in his *De piscibus* (Aldrovandi 1613: 168) explicitly show (Fig. 5):

Clearly these are two very different fish. The Mediterranean damselfish (Fig. 6) is indeed assigned by biologists to the taxonomic family Pomacentridae, which mostly comprises coral reef fish (Allen 1991). Apart from other major morphological differences, the Mediterranean damselfish does not have particularly conspicuous otoliths, is considerably smaller than the shi drum and, contrary to the sciaenids, not particularly esteemed (Ramcharitar et al. 2006: 1426).

However, when it comes to sound emitting abilities, the pomacentrids as well are considered by biologists as typical "vocal" fish, i.e. fish that expressly produce sounds for communication purposes (Amorim et al. 2015: 3ff; Ladich 2015). Sounds are characteristically produced by males mostly to attract females during courtship (Picciulin et al. 2010: 126; Amorim et al. 2015) or during agonistic interactions with other males (Amorim 1996: 266; Picciulin et al. 2002: 237). Since tropical damselfish are quite popular aquarium fish, the detection of their vocal products is frequently reported by fish-keepers (and sometimes also by divers)\(^3\). But these reports do not involve *Chromis chromis*, the only damselfish living in the Mediterranean Sea. The same seemingly goes for the ancients: although, as a common fish forming shoals near rocky reefs, it is not to be excluded that the ancients had been aware of its vocal abilities, no ancient text reports anything of the sort for *korakinos* — the Greek name for *Chromis chromis* (Saint-Denis 1947: 27f; Thompson 1947: 122f; Guasparri 2005: 148). The name is derived from *kóras* 'crow', seemingly in reference to the dark colour of the fish (e.g., Aristophanes *ap. Ath.* 7, 308f; Oppian *Hal.* 1, 133). Its taste, as expected, is deplored by the ancients (eg., Archestratus *ap. Ath.* 7, 294a; Amphis *ap. Ath.* 7, 309d). Currently only biologists seem familiar with its sounds, described as "pops" consisting of single pulses peaking at about 400 Hz and recorded both at sea or in tanks during aggressive and courtship behaviours (Picciulin et al. 2002: 272; 2010: 126).

On the contrary, the sciaenids are well known as vocal fish also beyond the biological field, as their common English names clearly attest (see above) — e.g., brown meagres are easily detected (unfortunately for them) by spear fishermen, who can tell not only where but also how big they are by the type of "frogs’ croaking sounds" they emit (Volpe 2004). “These sounds are fairly audible even from out of the water when there are several animals involved (chorus) and therefore are easier to learn” (Picciulin pers. comm.).

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1. Aelian NA 15, 11, 27. Aelian has the alternative form *khrémēs*, which is perfectly consistent with the etymology of *khrēmēs* (see etymology provided next).
2. This is the situation nowadays, as confirmed by the names these fish share in the Mediterranean area. See, e.g., the common names of shi drum and brown meagre in Froese & Pauly 2016.

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\(^{3}\) The internet has many videos documenting this e.g., (as of January 2016), [https://www.youtube.com/watch?v=hH8pUZyFmdk](https://www.youtube.com/watch?v=hH8pUZyFmdk)
Picciulin also confirms that the sounds emitted by *Sciaena umbra* and *Umbrina cirrosa* are similar (cf. also Picciulin et al. 2013: 77).

**“NEIGHING” FISH OR “GRUNTING” ONES?**

As a consequence, sound emitting can definitely make a salient trait in the cultural construction of the sciaenids’ identity. This does not only go for contemporary cultures, but appears to be also true for the members of the cultures in question. Indeed, it is precisely such *referential constraint* that appears encoded in the morphology of the Greek descriptive ethnobionym.

Linguistically, *khrόmis*, like many other nouns in -*i*-, is derived from a nominal base which is in turn derived from a verb, although with an *a*-grade, instead of an *e*-grade, in the root syllable (Buck & Petersen 1945: 14f; Chantraine 1933: 112). In particular, the ethnobionym appears to be formed as [[khromo/e]N+iN+s], i.e. from such nouns as *khrόmos* or *khrόmē* ‘the neighing of horses’ (Liddell et al. 1940: 2008), both connected to the verb *khremízō/khremetízō* analogically reconstructed from such attested forms as *khremetízō*, *khremizō* ‘neigh’. By analogy with the other morpho-

4. In addition to the names given above cf. the “crow-related” ones spread in the Mediterranean area for the shi drum and the brown meagre (e.g., It. corvo, At. g’ab, Alb. kurb, etc.). See the common names of both in Froese & Pauly 2016.

5. Cf. also *khrόmēs* (gen. -*ou*), a variant of *khrόmis* found in Oppian (Hal. 1, 112) and Aelian (NA 15, 11) – see note 1 above. For the sake of completeness cf. also the fish name *khrόmēs* in Hesychius (p 753) with the gloss *phruagmēs*, a parallel form to *phrūagma* ‘violent snorting’ (Liddell et al. 1940: 1958), also said of the sound produced by a boar in Oppian (Cyn. 2, 457). Moreover, such related forms as *Khremétēs*, a river name (lit. ‘croaker’), *khrόmados*, used in the Iliad (23, 688) for the creaking sound of the boxers’ jaws being hit with a

logically parallel forms, the semantics of the suffix can be generally expressed as ‘someone or something provided with x’ (where x is represented by a trait hyponymically related to the semantics of the derivational base – cf. the examples in Buck & Petersen 1945: 14; see also Guasparri 2005: 115). Thus *khrόmis* will be a fish ‘provided with a neigh’ (cf. Strömberg 1943: 67; Chantraine et al. 1968-80: 1272). However, a neigh is very different from a croaking sound, a drum-like sound or, at any rate, a sound like the ones actually produced by the Mediterranean sciaenids.

In fact, although the nouns *khrόmos* or *khrόmē* and the related verbs *khremizō/khremetizō* are glossed in the dictionaries as ‘neigh, whinny’ (cf. Liddell et al. 1940: 2003), such definitions appear incorrect if we think only in terms of the high-pitched prolonged sound we consider typical of a horse; horses also typically emit a grunting noise, and, by comparing the semantics of other forms connected with the verb *khremizō* or *khremetizō*, it appears that it is to the latter sound that the Greek name may refer to. The term *khrόmē*, for instance, is only found in Hesychius (p 753) with the gloss *phruagmēs*, a parallel form to *phrūagma* ‘violent snorting’ (Liddell et al. 1940: 1958), also said of the sound produced by a boar in Oppian (Cyn. 2, 457). Moreover, such related forms as *Khremétēs*, a river name (lit. ‘croaker’), *khrόmados*, used in the *Iliad* (23, 688) for the creaking sound of the boxers’ jaws being hit with a
blow, and, most significantly, \textit{khrēmps} (cf. \textit{khrēmptomai} ‘clear one’s throat’ – see Strömberg 1943: 67; Chantaine 	extit{et al.} 1968-80: 1272), a variant form of \textit{khrēmis} found in Aristotle (\textit{HA} 5A34a8), confirm that the sounds emitted by this fish resemble the croaking sounds produced by \textit{Umbrina} sp. (or \textit{Sciena umbra}) rather than the “pops” produced by the Mediterranean damselfish.

AN UNDERSTANDABLE (MIS)IDENTIFICATION

The identification of Greek \textit{khrēmis} seems, therefore, exclusively limited to fish of the Sciaenidae family such as the shi drum and the brown meagre.

How to explain, then, the identification with the damselfish provided by Rondelet and accepted as such by most ichthyologists after him? Answering this question will lead us to both clarifying the interpretation of a passage from the \textit{Halieutica} (a poem traditionally ascribed to Ovid) and, incidentally, putting in doubt – but only from a historical point of view – the scientific taxonomy biologists use for referring to the genus \textit{Chromis}, a fairly numerous taxon comprising fish of the Pomacentridae (not the Sciaenidae) family – notably, the name has been assigned by Linnaeus himself based on Artedi’s authority, the latter based in turn on Rondelet’s identification of Gr. \textit{khrēmis} with the Mediterranean damselfish (Artedi 1738; Linnaeus 1758: 280).

Rondelet’s succinct paragraph about \textit{khrēmis} ends with the quotation of Ovid’s remark \textit{immunda chromis} (\textit{Ov. Hal.} 121), lit. ‘unclean \textit{chromis}’, the only negative statement about the fish in the ancient sources and, therefore, easier to pinpoint.

Rondelet, much like many other scholars after him (e.g., Aldrovandi 1613: 168; Saint-Denis 1947: 23; Capponi 1972: 529), has taken the adjective as referring to the qualities of the fish as food, which cannot match with the tremendous reputation of the sciaenids. The bad reputation of the Mediterranean damselfish, maybe only second to that of the sape (\textit{Sarpa salpa} (Linnaeus, 1758)), whose discredit goes for the ancients as well (e.g., Epicharmus \textit{ap. Ath.} 7, 321d; Pliny \textit{Nat.} 9, 68), will have played a primary role – what is more, when it comes to fish that thrive in grassy sand, Ovid’s verse mentions just the sape as \textit{merito vilissima} (‘rightly most worthless’) immediately after \textit{immunda chromis}, a pairing which might have been difficult to resist for Rondelet and his followers, although the fish lists in the poem do not follow the criterion of phenotypical similarity. Moreover, Pliny (\textit{Nat.} 32, 153) quotes \textit{chromis} among the fish quoted in turn by Ovid, saying that it builds a nest underwater. This might be the actual reference to the Mediterranean damselfish in the ancient texts, since these fish are “nesters” (Quignard & Pras 1986), unlike the Sciaenidae – Thompson (1947: 292), for instance, relies both on this fact and on Ovid’s \textit{immunda} remark for additionally identifying \textit{khrēmis} with the Mediterranean damselfish. In fact, Ovid’s passage assigns this reproductive habit not to \textit{chromis} but to \textit{physi} (= the wrasse \textit{Symphodus} sp., another “nester” fish; see Guasparri 2005: 368); the fact that \textit{physi} is mentioned in the verse immediately fol-

LAT. IMMUNDUS

As to the adjective \textit{immundus}, this is never used in the Latin sources in reference to (bad) gastronomic qualities. The word occurs from Plautus onwards mostly in its denotative meaning, i.e. for describing something “unclean or untidy in appearance” (Glare 1968: 838), which seems rather odd for a fish.

Thus, all possible explanations of the syntagm \textit{immunda chromis} test on the connotative uses of \textit{immundus}. However rare in the ancient texts, such occurrences are well worth considering in detail. By reviewing all the occurrences found in the Latin sources, two seem the semantic spheres targeted through the metaphorical use of \textit{immundus}. The first is connected with smell. Virgil (G. 3, 564) says \textit{immundus} of the sweat secreted by the smelling limbs of someone wearing clothes made out of the wool of plague-affected sheep. The other smell-related passage is particularly significant because it is not only found in Ovid himself but it also involves an animal (although not a fish). Drawing an analogy between human and non-human sexual behaviours, Ovid (\textit{Ars} 2, 486) says that a she-goat “bears her \textit{immundus} male”. Even though the reference to smell might not appear explicit to us city-dwellers, he-goats are mostly quoted throughout Latin literature as the standard example of a stinking animal (cf. e.g., MacCary & Willcock 1976: 210) – Pliny, for instance, labels the he-goat as \textit{foedissimum animalium}, lit. ‘the foulest of animals’ (Pliny \textit{Nat.} 37, 60).

The second connotational field attested for \textit{immundus} in the Latin texts is taboo-related. Horace uses the adjective for describing the erotic dream (\textit{immundum visum}) which leads him to stain his nightshirt. The same author labels the language of the Satyrs in satyrict dramas as filled with \textit{immunda dicta}, i.e. “obscene” or “bawdy words” (\textit{Horace Ars} 247; cf. e.g., Fairclough 1942: 471).

KHRÓMIS, SAPÉRDÉS AND KORAKÍNOS: A “PONTIC” SYNONYMY

In view of the above connotative uses, let us try and explain why Ovid has called this sciaenid fish \textit{immundus}. Everything relies on two additional Greek fish names: \textit{sapērdé} and, again, \textit{korakínos}.

Sapērdé labels both a food item consisting of salted fish (\textit{tärık-hoo}) typically prepared in the Black Sea region (Pontus; cf. Varro \textit{Men.} 312; Persius 5, 133; Archestratus \textit{ap. Ath.} 3, 117a) and the fish called by the same name – a pairing food/fish which

6. In particular, out of a total of 29 occurrences, two are taboo-related (Horace \textit{S.} 1, 5; \textit{Ars} 247) and two smell-related (Ovid \textit{Ars am.} 2, 486; Virgil \textit{G.} 3, 564). All the rest consists of denotative uses (i.e. \textit{immundus} as ‘unclean’).

7. ‘Foul sweat’ as the English translation for \textit{immunda sudor} is well established among Virgil scholars. E.g., Fairclough 1934: 195; Thomas 2008: 64.

8. Cf. e.g., translations such as “salacious” (Schlegel 2005: 65) and “obscene” (Brown 1993: 59).
is not uncommon in both the ancient Greek and the Latin world, which typically viewed the sea as an inexhaustible larder (Guasparri 2005). In the same Pontic area this fish is also called *konakino* (cf. Hesychius, σ 184), the most esteemed of which is found in the Palus Maeotis (Sea of Azov) (cf. Dorius ap. Ath. 3, 118b). But what species is it? *Konakinos* (see etymology given earlier) has a threefold identification, one of which involves just the two sciænids we have considered so far to be the referents of *khromis* (cf. Thompson 1947: 122f). This identification is not only supported by the similarity between the ancient and the modern names of the two fish involved (all “crow-related”), but, above all, by sapérdēs being described as a “big” fish (Diphilus ap. Ath. 4, 157a) and a “broad-snouted” one (Timocles ap. Ath. 7, 339e), which definitely excludes both the other referents denoted by *konakino* (the damselfish and – for different but obvious reasons – the Nile tilapia, *Oreochromis niloticus* (Linnaeus, 1758)), all to the advantage of the two sciænids – and of the shi drum in particular, given its “massive head” (Costa 1991: 188).

We can therefore conclude that all three ethnobionyms, *khromis*, sapérdēs and *konakinos*, denote the shi drum (or the brown meagre), although, as to *konakinos*, this reference is seemingly only found in the Black Sea region. This, however, is hardly a problem, since, according to Pliny (*Nat.* 32, 152), Ovid has begun his book when in exile on the Black Sea at the end of his life and, therefore, he has included fish typically found there.

As a result, although referring to *sapérdēs*, Ovid might have used *khromis* hinting at its “Pontic” synonymy with both *konakinos* and *sapérdēs*. This hypothesis, i.e. Ovid’s allusion to the sciænids in question through the adjective *immunda*, can actually be strongly supported in terms of both the connotative uses of *immundus* seen earlier. A first case in point is provided by Athenaeus: Parmeniscus, one of the “learned banqueters” portrayed in the *Deipnosophists*, quotes a verse by the comic poet Diphilus in which a “big” and “somewhat smelly” (*hippodūsōdes*) sapérdēs makes its entrance at a “flowery” dinner table, which is possibly (the text is partially corrupt) what brings a burst of laughter from the other banqueters.

The second case in point is provided by Strabo (*geogr.* 13, 2, 6), who quotes *sapérdēs* among several other “indecent” words writers avoid because of the phonetic connection to such taboo-terms as *porodē* ‘flatulence’ and *pérdoma* ‘break wind’: “Some writers, to avoid the indecency of the names, say that in this taboo we should read “Porosele,” and that we should call Aspordenum, the rocky and barren mountain round Pergamum, “Asporenum,” and the temple of the Mother of the Gods there the temple of the “Asporene” mother. What, then, shall we say of Pordalis and Saperdes (Sapérdēs) and Perdiccas, and of the phrase of Simonides, “banished, ‘pordacian’ clothes and all”, instead of “wet” clothes, and, somewhere in the early comedy, “the place is ‘pordacian’, that is, the place that is marshy”? (Jones 1929: 147).

This might not only explain Ovid’s text both in terms of the smell and the taboo-related connotations of *immundus* (the fish would be “unclean” for both its smell as a *tartikhos* and its flatulence-like sound, hence the pun), but also account for Ovid’s avoidance of *sapérdēs* in his poem.

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9. See e.g., Thompson 1947: 122; Froese & Pauly 2016.
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