

## TIPHAGION

In a short article published some years ago, Guy Wagner sought to show that the term τιπάγιον occurring in a number of texts from the western oases of Egypt was a Greek version of the neuter of *typhaceus*, a Latin adjective which he supposed to have been derived from the Greek word τίφη, meaning „einkorn“.<sup>1</sup> He took the adjective to be modifying an unstated word referring to bread (e.g., ψωμίον) and thus to refer to loaves of bread made from einkorn, a primitive wheat. Since he wrote, the body of texts referring to tiphagion has grown only slightly, although some of the texts he cited as unpublished have now appeared. The new texts, unfortunately, do not in themselves contribute much more than the previously known ones to the interpretation of tiphagion. But there are a number of grounds, botanical and philological alike, to regard Wagner's hypothesis as highly unlikely to be correct. We will review these and then proceed to ask if an alternative explanation is possible.

### 1. Origin, domestication and distribution of einkorn

The first and greatest difficulty of the hypothesis is that it supposes that einkorn was grown for bread in the Kharga and Dakhleh Oases in the fourth century. This, as we shall see, is most unlikely. Einkorn (*Triticum monococcum*<sup>2</sup>) is a diploid wheat with characteristic hulled grains and delicate spikelets and ears. Most of the spikelets bear one grain only, hence its name, but varieties with two grains and intermediate forms with a mixture of one-grained and two-grained spikelets in the same ear exist as well. Einkorn was one of the founder crops of Neolithic agriculture in the Near East and a principal component of the crop assemblage of early European agriculture. Its importance seems to have declined gradually from the Bronze Age onwards, quite likely due to the competition from free-threshing wheats. The fine yellow flower is nutritious, but gives bread that rises poorly. Thus einkorn may have been consumed primarily as porridge or as cooked whole grains. Since Roman times a considerable part of the yield has been fed to animals. Today einkorn is a relic crop but has been recorded this century in Morocco, in several European countries, Turkey and Transcaucasia.<sup>3</sup>

The progenitor of domesticated einkorn, *Triticum boeoticum*, is widely distributed over western Asia and penetrates also into the southern Balkans, but does not occur in Egypt. Its center of distribution lies in a broad belt which spans from southern Turkey through northern Syria and northern Iraq to northern Iran, as well as some parts of western Anatolia. In these areas, wild einkorn is massively distributed as a component of open oak park-forests and steppe-like formations. In addition to its primary habitats, einkorn also occurs as a weed in cereal crops and as a colonizer of secondary habitats, such as roadsides and edges of cultivation.<sup>4</sup>

Wild einkorn is thus distributed over a wide ecological range. Climatically it thrives on the summer-dry foothills of the northern Euphrates basin, as well as on the bitterly cold plateaus of central and

<sup>1</sup> Wagner 1990.

<sup>2</sup> Most scholars studying wheat today regard the wild and domesticated forms of einkorn not as independent species but as subspecies. The same applies to other wheat types mentioned in the text. Thus the correct botanical names are

<i>T. monococcum</i> ssp. <i>boeoticum</i>	<i>T. boeoticum</i>	wild einkorn
<i>T. monococcum</i> ssp. <i>monococcum</i>	<i>T. monococcum</i>	domesticated einkorn
<i>T. turgidum</i> ssp. <i>dicoccum</i>	<i>T. dicoccum</i>	emmer
<i>T. turgidum</i> ssp. <i>turgidum</i> conv. <i>durum</i>	<i>T. durum</i>	hard wheat
<i>T. aestivum</i> ssp. <i>vulgare</i>	<i>T. aestivum</i>	bread wheat

As most archaeologists are more familiar with the old names, they are still used here.

<sup>3</sup> Harlan 1981, 1 ff.; Körber-Grohne 1987, 321 f.

<sup>4</sup> Harlan and Zohary 1966, 1078; Zohary 1969, 48 f.

western Anatolia, with their summer rains. But it does not stand hot and very arid climates. Edaphically, it shows a definite affinity to basaltic soils, marls, clays, and limestone.<sup>5</sup>

Einkorn was probably collected intensively from the wild before it was brought into cultivation. Wild type einkorn has been retrieved from mesolithic Tell Abu Hureyra<sup>6</sup> and from Tell Mureybit,<sup>7</sup> northern Syria. Wild-type einkorn remains continue to appear in some early neolithic sites in the Near East where there are already definite signs of wheat and barley cultivation, such as Tell Abu Hureyra,<sup>8</sup> Syria; Çayönü<sup>9</sup> and Can Hassan,<sup>10</sup> Turkey; and Ali Kosh and Tepe Sabz, Iran.<sup>11</sup> In some of these sites, as well as other contemporary Near Eastern settlements, one is also faced with the plumper grains of cultivated einkorn, indicating that einkorn belongs to the small group of annual grain plants that founded agriculture in the Near East. From these localities, which are more or less situated within the present range of distribution of wild einkorn, the domesticated cereal spreads further south to Tell el Aswad<sup>12</sup> and to Jericho.<sup>13</sup> Somewhat later, einkorn emerges as one of the principal crops of Neolithic food production in the Near East. It continues to appear together with emmer (*Triticum dicoccum*) and barley (*Hordeum vulgare*) but shows a definite preference for areas with relatively cool climate. It is rare in warm places and completely absent from hot regions like Lower Mesopotamia. Einkorn played a major role in the early spread of neolithic agriculture beyond its Near Eastern nuclear area and became one of the main cereal crops of the Bandkeramik Culture, the first farming settlements in central Europe.<sup>14</sup>

Einkorn is a small plant with comparatively low yield, but it can survive on poor soils, where other wheat types fail. It is frost tolerant and therefore in Europe often sown as a winter crop. Cultivated einkorn does badly under irrigation.<sup>15</sup> From its ecological requirements, its center of origin and its distributional pattern, it seems to be clear that einkorn should not turn up in archaeological sites in Egypt. Nevertheless it has been recorded several times for this area. The first set of finds, identified in the 1940s, comes from predynastic El-Omari,<sup>16</sup> King Djoser's Pyramid in Saqqara (Dyn. III) and from Queen Icheti's Tomb (Dyn. VI),<sup>17</sup> but all these finds were later reidentified as emmer (*Triticum dicoccum*).<sup>18</sup>

For a long time the distinction of *Triticum monococcum* and *T. dicoccum* was not easy. Only with the pioneering work of Schieman, van Zeist,<sup>20</sup> Hillman<sup>21</sup> and Jacomet<sup>22</sup> (to name but a few) do we have criteria at hand which enable us to separate the two species on the basis of their spikelet and grain morphology. Although the typical grains of one-grained einkorn are readily separable from emmer

<sup>5</sup> Zohary and Hopf 1994, 33.

<sup>6</sup> Hillman 1975, 71 f.

<sup>7</sup> Van Zeist 1970, 167 ff.

<sup>8</sup> Hillman 1975, 73.

<sup>9</sup> Van Zeist 1972, 6.

<sup>10</sup> Hillman 1972, 187.

<sup>11</sup> Helbaek 1969, 386.

<sup>12</sup> Van Zeist and Bakker-Heeres 1985, 184 f.

<sup>13</sup> Hopf 1983, 580 f.

<sup>14</sup> Willerding 1980; Harlan 1981, 4.

<sup>15</sup> Helbaek 1959, 367; Körber-Grohne 1987, 322.

<sup>16</sup> Debono 1948, 568.

<sup>17</sup> Täckholm 1951, 109 f.

<sup>18</sup> Helbaek 1953; Schieman 1954. These reidentifications were unfortunately unknown to Wagner.

<sup>19</sup> Schieman 1948.

<sup>20</sup> Van Zeist 1968, 41 ff.

<sup>21</sup> Hillman forthcoming.

<sup>22</sup> Jacomet 1987.

grains, there are grains of two-grained einkorn, which cannot be distinguished from grains of the terminal spikelets of emmer.

A second set of finds was identified from the 1980s onwards, when the art of wheat identification was already well established. Therefore it is less likely that these finds have been misidentified, although this might still be the case. These finds come again from predynastic El-Omari,<sup>23</sup> from Tell el-Dab'a (Second Intermediate Period),<sup>24</sup> from Abydos (Dyn. XVIII),<sup>25</sup> from the tomb of Tutankhamun (Dyn. XVIII)<sup>26</sup> and probably also from predynastic Adaïma<sup>27</sup> and from Wadi Kubbania (1st millennium AD).<sup>28</sup>

In all the above mentioned archaeological sites einkorn appears in quantities so minute, compared to emmer, the principal wheat of predynastic and dynastic Egypt, that it cannot be considered a crop. It rather grew as a minor weed in cereal cultivations or, from the New Kingdom onwards, might have been brought in with tribute paid in cereals. Tell el-Dab'a, for example, has strong connections with the Levant which are manifested in its material record and also in weeds native to Cyprus and the Near East but not to Egypt. The few spikelet forks and grains of einkorn found there might have been brought in together with other imported goods.

From the Graeco-Roman Period onwards emmer was gradually replaced in Egypt by hard wheat (*Triticum durum*) and bread wheat (*T. aestivum*), free-threshing wheats, and Egypt (as well as all of North Africa) became one of the prime producers of bread wheat for the Roman Empire.<sup>29</sup> Emmer, a staple crop of predynastic and pharaonic Egypt, was still grown to some extent. This was also the case in Kellis where, according to archaeological finds, bread wheat and hard wheat were prevalent, while emmer was only grown in small quantities. Not a single grain or spikelet fork of einkorn has been found so far.<sup>30</sup> The same applies to other Roman sites in Egypt like Mons Claudianus<sup>31</sup> and Berenike.<sup>32</sup>

There is no reference to einkorn among the Roman writers on agriculture, but the Greek word *τίφη*, mentioned by Aristotle, Theophrastus and other Greek authors, appears to have referred to this cereal.<sup>33</sup> It is likely that the absence of mention of einkorn in the Roman imperial writers is the result of the lack of any significant role for einkorn in the Roman world, and indeed archaeological finds of einkorn are scarce.

In summary, it seems most unlikely that any product derived from einkorn would appear in the oases of Upper Egypt. It is a cereal of comparatively cool and temperate regions, which cannot stand hot and arid conditions and does badly under irrigation. It is rare throughout North Africa, and the few real Egyptian occurrences are predynastic or pharaonic; all of the citations given by Wagner for einkorn in Egypt have in fact been shown to be emmer. When Wagner suggests that „ce pourrait bien être là, une fois de plus, une culture et un produit propres aux Oasis“ (p. 242), he focuses the problem precisely, for the oases are, of all parts of Egypt, those least likely to have produced einkorn; and yet it is only there that the word *tiphagion* demonstrably appears.

<sup>23</sup> Barakat 1990, 109 f.

<sup>24</sup> Thanheiser forthcoming.

<sup>25</sup> Hillman 1986, pers. comm.

<sup>26</sup> De Vartavan 1993, 111.

<sup>27</sup> De Vartavan 1996, 6.

<sup>28</sup> Stemler and Falk 1980, Pl. 3.

<sup>29</sup> Harlan 1981, 13. For wheats in classical antiquity, see also Jasny 1944. Breadmaking in Graeco-Roman Egypt is discussed in detail in Battaglia 1989.

<sup>30</sup> Based on the analysis of c. 600 samples with some 10,000 plant remains (Thanheiser, unpublished results).

<sup>31</sup> Van der Veen 1996.

<sup>32</sup> Cappers 1996.

<sup>33</sup> Percival 1974, 171. See LSJ s.v. But ancient views differed: LSJ cites Hesychius as „wrongly“ glossing it with *ἄλυσρα*, emmer.

The Word *τιφάγιον*

The instances of *τιφάγιον* in the documents known to date may be enumerated briefly:

*O. Douch* I 34.5 (receipt for wine and tiphagia):

τιφάγια εἴκοσι γί(νεται) τιφ(άγια) κ

*O. Douch* inv. 89-203 (ined.), mentions of *τι(φάγια) λ*, *[τ]ιφ(άγια) λ*, and *τι(φάγια) λαδ*<sup>34</sup>

*O. Waqfa* 73.3-4 (list of fowl and tiphagia): *τιφ(άγια) ϑβ* and *τι(φάγια) λε*

*KAB* (Kellis Agricultural Account Book, = *P. Kell.* IV Gr. 96) 19, 375-377, 379, 381, 382, 803, 947, 950, 952, 953, 955, 956, 1044, 1492, 1494, 1496, 1502, 1660: as part of a long account of income and disbursements mainly in various food crops, receipts and payments, variously *τι(φάγια)* or *τιφ(άγια)*, amounts ranging from 4 to 25 and including some fractions (12.5)

All of these were known to Wagner, who noted that the first of them „sera la seule où le terme sera écrit en toutes lettres“.<sup>35</sup> Since that time, three ostraka found at Kellis have been discovered containing tiphagion. In *O. Kellis* registration no. D/6/64 (= EAO #2305), an order for delivery, the term is again written in full, *τιφάγια εἴκοσι*; in *O. Kellis* registration no. A/6/230 (= EAO #2316), a list of providers or recipients of tiphagia, it is abbreviated four times *τι(φάγια)*, with amounts of 10, 15, 15, and 20. And in *O. Kellis* registration no. D/6/143, a receipt for various commodities, the last entry is *καὶ τιφάγια γ*. The find pattern thus remains to this point entirely oasite, with the southern Great Oasis (Kysis and Ain Waqfa) and the Mothite Oasis (Kellis) accounting for all attestations to date, and all instances datable to the fourth century.

One possible additional instance of the word was read in *O. Waqfa* 64.4, an account of edible commodities in which a doubtfully read occurrence of 21 tiphagia occurs. In the note to this line, the editors call attention to *P. Mert.* II 87.9, a food account where the edition reads *τὸ πρὸ ἐμῷ τειφασω[ν?]*. Instead, they suggest (partly in footnote 62) reading *τὸ προεινὸν* (l. *πρωϊνὸν*) *τειφαγ[ ]* („breakfast: tiphag[“). Indeed, we believe that on the plate (XXXIV) it is possible at the end of the line to read *τειφάγια [ ]*. The provenance of this papyrus is not known, and its editors dated it on palaeographical grounds to the third century. It thus expands somewhat the chronological boundaries in which tiphagion is known, but it remains unclear if this papyrus should be attributed to one of the oases; if not, we would have our first non-oasite attestation of tiphagion.

Wagner based his suggestion of *typhaceus* on the occurrence of the word in Prosper Alpini, a 16<sup>th</sup>-century traveller to Egypt, who includes it in a list of types of bread; elsewhere he mentions *typha* as a grain eaten in Egypt, apparently cooked. Wagner: „Nul doute que nous avons là notre *τιφάγιον*, transcription normale en grec d’une épithète latine *tifaceum*, *tiphacium* (sc. *frumentum vel sim.*), dont le genre pourrait s’expliquer par un mot neutre comme, par exemple, *ψωμίον*. Les graphies de Prosper Alpin (et de son traducteur) avec un -y- (i grec) sont à éliminer, car il faut reconnaître dans le substantif *tifaceum/tiphacium/τιφάγιον* la racine du mot grec *τίφη* qui désigne le *Triticum monococcum* . . . Il ne faut pas confondre cette céréale avec la plante aquatique *τύφη*, latin *typhe*, -es, qui a donné son nom à la vaste famille des Typhacées“.

What Prosper may have known is discussed in the next section. For the moment, let us concentrate on the claim that we are dealing with a spelling in Greek of a Latin adjective derived from *τίφη*. This requires the following sequence: (1) The Greek noun is borrowed by Latin; (2) Latin forms an adjective from the noun; (3) Greek borrows the adjective from Latin; (4) the adjective find its way to the oases, but (on present evidence) nowhere else; (5) the adjective is misspelled in the only three instances, from two different locations and one unknown one, in which it is written in full. Of these steps, the first is unobjectionable; the noun will be found in standard Latin lexica, especially from Pliny, *NH* 18.81 and 18.93 (*OLD*, s.v.). The second, however, is already less likely, for classical Latin has relatively few

<sup>34</sup> Quoted by Wagner 1990, 239.

<sup>35</sup> The text of *O. Waqfa* 73, still unpublished at that time, was given by Wagner in the article.

adjectives ending in *-aceus* (and *tiphaceus*/*typhaceus* is not one of them). The adjective *tiphaceus* (or *typhaceus*) is in fact found nowhere else than Prosper in classical Latin, as far as we can see from the various lexica. Nor, for that matter, does any lexicon of medieval Latin record the word, and searches of the entire Patrologia Latina and the CETEDOC CD-ROM similarly turn up no attestations.<sup>36</sup> We thus lack any evidence that this adjective was known in Latin at any time within a thousand years of the supposed borrowing back into Greek. Step 3 is perhaps not inconceivable, but it is not evident why Greek would not have formed its own adjective from the Greek noun (which itself never occurs in the papyri), rather than borrowing a Latin one. And indeed it did, for Galen and Oribasius attest an adjective *τίφινος* meaning „made of *τίφη*“ (see LSJ s.v.). Step 5 was at least arguable when only one instance written in full was known, but now with three, two of them from different places, seems much less plausible. Although substitution of gamma for kappa intervocalically is not rare (Gignac, *Grammar* I 79-80), the use of *-αγιον* for *-ακ(ε)ιον* is rare, limited as far as we can see to a couple of instances of *δελφάγιον* for *δελφάκιον*.<sup>37</sup> Nor does it seem likely that the later diminutive Greek suffix *-ακιον* is intended here, for it is not yet in this period a productive diminutive form.<sup>38</sup>

All in all, the series of steps required by Wagner's hypothesis seems unlikely to have existed. The hypothesis must thus be judged philologically as dubious as it is botanically.

#### Prosper Alpini

We may now ask a little more precisely what the value is of the testimony of Prosper Alpini.<sup>39</sup> After all, even if the derivation of *tiphagion* proposed by Wagner is incorrect, Prosper does without a doubt refer to a word which the dictionaries tell us means einkorn. That is, even if *τιφάγιον* does not come from a Latin adjective *tiphaceus*, if einkorn bread was used in 16<sup>th</sup>-century Egypt, it could have been present in 4<sup>th</sup>-century Egypt. Prosper was a well-educated doctor, very interested in plants, who visited Egypt in 1581-1584. As well as a doctor, he was a thoroughly educated Renaissance humanist and had read the classical medical and scientific authors. In reading him, therefore, and in considering his vocabulary, it is not always clear what he reports on the basis of his reading and what on the basis of autopsy or hearsay. As far as is known, he visited Cairo, Alexandria, and parts of the Delta; he may also have made excursions to Thebes and the Fayum, but these are uncertain. He never visited the oases, certainly, and he is no evidence for practices there. (This point is significant because Wagner claims that einkorn bread was an oasis specialty.) Nor, indeed, does he actually claim directly to have seen all the breads he mentions.

Prosper mentions *tiphe* in two passages. In the first (sec. 67; p. 128 in the translation), he says „Cerealibus quoque seminibus affluit Aegyptus, & iis ex quibus panis conficitur, praeterea milio, panico, olyra, typha, avena, & alica, & aliis, ut puta, fabis, pisis, ciceribus, lentibus, lupinis, phaseolis, aphace, crobo, atque aliis similibus...“ („L'Egypte est, aussi, abondamment pourvue de céréales et de

<sup>36</sup> *Typhe*, the aquatic plant, does turn up in a few authors, but *tiphe*/*tipha*, einkorn, is never recorded. From neither of them is an adjectival form in *-aceus* attested. Forcellini cites *tiphe* from Pliny, but neither it nor DuCange has the adjective. It must be said, however, that much documentary Latin of the medieval and Renaissance periods is unrepresented in any of the tools we have been able to consult, and the various national lexica of medieval Latin have not yet reached the letter T. We would therefore not assert that the adjective is Prosper's own invention.

<sup>37</sup> O.Kell. registration no. D/6/143, with its dropping of intervocalic gamma, would additionally require of Wagner's hypothesis that kappa not only changed to gamma but was so thoroughly naturalized as gamma that it then dropped out intervocalically as gamma did (Gignac, *Grammar* I 71) and as kappa did not (Gignac 65).

<sup>38</sup> See Palmer, 1946, 89 sub E.c. The suffix is in fact found in antiquity almost entirely for diminutives of words whose stems end in a k sound; that is, the diminutive suffix is actually just *-tov*.

<sup>39</sup> His *Histoire Naturelle de l'Egypte* is readily available in a French translation by R. de Fenoyl, with annotation by the translator and Serge Sauneron, 2 vols. (Cairo 1980). Citations here are to page number in the translation, and to the „section“ number, which is actually the page number in the original Latin edition: *Historiae Aegypti naturalis pars prima* (Leiden 1735). Latin text is of course cited from this edition.

toutes les graines avec lesquelles on fait le pain, sans compter le mil, le panic, l'olyre, le typha, l'avoine, l'épeautre, ainsi que d'autres productions comme les fèves, les pois, les pois chiches, les lentilles, le lupin, les haricots, les vesces et autres graines du même genre..."

It can be seen that typha is grouped not with bread grains, which are mentioned only as a group and not specified, but with grains eaten in cooked form: millets, oats, emmer, and emmer groats (*alica*). This grouping corresponds to the usage of einkorn described above. Whether Prosper actually saw or knew of einkorn being used in Egypt in this fashion is hard to say, given the fact that it is not and was not grown as a food crop in that country, but at any rate this passage is no evidence for einkorn bread.

In the other passage (sec. 71; p. 137 in the translation), Prosper is explaining that the Egyptians abstain from pork but nonetheless raise pigs because they keep horse stables clean (by eating the dung). He tells us,

„Hi pane fere omnes vescuntur, tam apud pauperes, quam divites triticeo: etsi ibi cujus cumque generis conficiatur, quippe Siligineus, Secundarius, Typhaceus, Antopyrus; Dulciarius, Focarius, Setanius, aliusque quem Chac appellant ...“ („Ces animaux sont presque toujours nourris avec du pain, chez les pauvres aussi bien que chez les riches. Quoique l'on fasse ici du pain de toutes espèces, du pain de froment pur, du pain de seconde qualité, du *typhacé*, de l'*antopyros*, du pain de pâtissier, du pain de cuisine, du setanius et un autre appelé *chac*..."

A reader familiar with the discussion of wheats in book 18 of the *Natural History* of Pliny the Elder can hardly help, faced with the Latin text, having a strong sense that Prosper had indeed read his Latin classics. There one can find *siligineus* (18.88), *secundarius* (18.89), and *setanion* (18.70); there too (18.81, 18.93) is *tipe*, although Pliny does not preserve the adjectival form *typhaceus* (or *tiphaceus*) any more than any other Latin writer does. One has to turn to book 22 to find *autopyrus*, the word hidden by *antopyrus* in both text and translation.<sup>40</sup> It means „whole-wheat“ bread.<sup>41</sup> *Dulciarius* does not appear in Pliny, apparently, but perhaps Prosper had read it in Martial (14.222). Only *focarius* is truly puzzling, for in all ancient Latin it refers to a kitchen servant. It seems most improbable that Prosper's informants in Egypt used these Latin terms for bread grains, unless he met someone as learned as himself, and what surely happened, at best, was that Prosper drew from his classical reading terms with which to translate things he encountered in Egypt.<sup>42</sup> One of these terms may well have been *tiphera*. But only the second passage is evidence for any connection with bread, the other concerning cooked cereals. As we have already seen, it is most unlikely that he actually encountered bread made from einkorn, even if he encountered einkorn at all. He may therefore either have had inaccurate information about the composition of some of the bread he found, or have supposed the Latin term to refer to something other than einkorn. It is worth mentioning the fact that Hesychius glossed τίφη with ὄλυρα. Einkorn was almost certainly a rare enough grain in imperial times that some writers may not have distinguished accurately between einkorn and emmer. It is also possible, to be sure, that the second passage is almost entirely a conceit drawn from Latin literature and reflects no actual observation in Egypt. In any case, Prosper Alpini can hardly be seen as useful evidence either for the occurrence either of the particular words *tiphera* and *typhaceus* in Egypt or for the appearance of einkorn in 16<sup>th</sup>-century Egypt.

### Typhaceae

As we have seen, Wagner dismisses in passing and without argument the possibility that tiphagion might refer to the species that the Latin adjective Typhaceae actually does refer to, another family of

<sup>40</sup> It should be remembered that the book was first published in 1735, a century and a half after Prosper's visit to Egypt; n and u are easily confused in handwriting, but whether the confusion is that of a copyist, an editor, or a typesetter is not clear. The translator says (p. 137, n. 207), „*antopyrus* vient sans doute du grec.“

<sup>41</sup> See LSJ s.v. ἀντόπυρος also, citing Plutarch, *Moralia* 2.466d for the word as the opposite of *sitanion*.

<sup>42</sup> See the editorial introduction, xxiv-xxvi, on the Latin vocabulary in Prosper and its sources. Some are neologisms, others transliterated from Greek, many derived from Pliny.

plants, with few taxa mainly occurring in swampy habitats. This question deserves a somewhat fuller discussion. Botanically, *Typha domingensis* is a tall marsh herb, often of more than men's height, with stout creeping rhizomes (7 - 10 mm wide, intricate) and long, linear leaves. In Egypt it is very common: it grows everywhere in ditches and marshy places; prefers freshwater and is more sensitive to salt than *Arundo donax* and *Phragmites australis*, two tall grasses.<sup>43</sup> It is a very widespread species, occurring in the tropics and warmer regions generally of both hemispheres of both the Old and the New World.<sup>44</sup>

It is at least conceivable that tiphagion could refer to these plants, counted in units. Their uses are several: the stems are used to cover roofs. The leaves are woven for making ordinary mats and huts and bottoms of chairs. (A few leaf-fragments were found in the excavations at Kellis.) The starchy rhizomes are edible and are reputed a cure for diarrhoea, gonorrhoea, and ulcers. They are mentioned by Dioscorides and Ibn el-Beitar under the name of Thifa, Dadi or Anthili.<sup>45</sup> We have not, however, found any direct archaeological or ethnographic evidence for the utilisation of the rhizome as a source of carbohydrates in North Africa. There are only general statements that in Europe in times of famine flour from the rhizomes was mixed with cereal flour; and that in Southeast Asia the plant was cultivated for its rhizomes. The Greek word *τύφη* was used for several plants by various classical authors.<sup>46</sup>

There are, however, arguments against the possibility that tiphagion is *Typha domingensis*: (1) It is not a crop but usually collected from the wild; all of the other rents in the Kellis Agricultural Account book are cultivated plants, domestic animals, or food products; (2) It is a plant of swampy areas. Today it grows alongside irrigation canals, near water pumps, etc., i. e., it needs a more or less permanent water supply. It seems unlikely that as much surface water was available in the Graeco-Roman period in the oases as today. An optimal environment for *T. domingensis* would have been the river banks along the Nile and in the Delta. There it could have grown in abundance. But we do not have any evidence that it was used there. Would people in Dakhleh have uprooted and treated as valuable a relatively uncommon plant which was ignored in areas where it probably grew in abundance? (3) The context of all of the instances in which tiphagion appears in papyrological texts is that of foodstuffs: grains, fruits, poultry, eggs, wine, and so on. The chances that tiphagion refers to something edible are very high. (4) The KAB seems to indicate that fractions of a tiphagion are possible; this might, however, just be a quirk of how payments are credited, with the payment actually being a whole tiphagion half of which is credited to each of two people. But the appearance of a quarter-tiphagion in O.Douch inv. 89-203 shows that fractional tiphagia are not unique to the accounting of the KAB.

There are also the same philological objections to be raised to *typha* that were raised above to *tiphe*, namely that neither the adjectival form nor the diminutive substantive seems a likely formation.

#### Another Approach

Another possibility deserves to be explored, namely that Wagner and H. Cuvigny were correct in their original suggestion, in *O.Douch* I 34.5n., that the root was *φαγ-* from the second aorist stem of *ἐσθίω*, to eat. This approach has the advantage that it does not require the assumption of any errors on the part of the writers of the two ostraka and one papyrus where the word appears fully written out. It also allows a parallel to be drawn with the one word known that actually resembles tiphagion, namely *προσφάγιον*, „ce que l'on mange autre que le pain“ (*P.Sarap.* 97.19n.), sometimes translated as „relish“ in English. It is usually in fact paired with bread, and an example is known from the Great Oasis in *W.Chr.* 498.21 (*P.Grenf.* II 77), of the late third century, recording expenses *ψωμίους καὶ προσφα-*

<sup>43</sup> Täckholm and Täckholm 1941, 90; Townsend 1985, 214.

<sup>44</sup> Townsend 1985, 216.

<sup>45</sup> Täckholm & Täckholm 1941, 90.

<sup>46</sup> Gilbert-Carter 1955; Townsend 1985, 211.

γίους.<sup>47</sup> Given the fact that tiphagion consistently appears in accounts and orders concerning everyday foodstuffs, this is the context that we would expect. That it is not an expensive foodstuff is suggested by KAB 1044, where a value just under 10 talents per tiphagion can be established. As this is the equivalent of (e.g.) a few kilograms of date stones or a thirtieth of a chicken, the value is obviously modest. An ordinary loaf of bread, in fact, is roughly an appropriate measure of the cost of a tiphagion.

The derivation of tiphagion remains difficult. It is perhaps attractive to think that it comes from the indefinite pronoun τις, τι, in which case the word might mean „something to eat,“ a sense not much different from the „something additional (to bread) to eat“ of προσφάγιον. But it must be admitted that we cannot cite another similar formation. Moreover, it seems probable that something much more definite is actually meant in ordinary use, because the items in question are counted. Nor is deriving it from the interrogative pronoun („what’s to eat?“) immune to such an objection. One might think also of a joining of the Coptic strong article Tl to the root φαγ-. Such a combination is also hard to parallel, and encounters the objection that the feminine article should not be prefixed to a neuter noun. The latter objection, however, is not decisive, for there are other examples of neuter loan words from Greek in the Kellis papyri with the feminine article.<sup>48</sup>

The possibility that the word tiphagion is itself Egyptian deserves a brief explanation. No Coptic word known to us is particularly close. In terms of meaning, perhaps the most attractive is TBT, „fish,“ of which forms with a long vowel are attested, including THQT (Crum, *Coptic Dictionary*, 401b). Fish would inherently be an attractive meaning for tiphagion, being countable in units (and even fractions), although its occurrence as a rent crop in the KAB would remain anomalous. But even if the disappearance of the second tau in the stem of this word is accepted, it is hard to see how one obtains the -αγιον suffix except through the kind of processes which we have described above as improbable, i.e., the route through a Latin adjective (even more unlikely when the root is Egyptian) or the use of the rare suffix -ακτιον and its equally rare conversion into -αγιον. An Egyptian explanation thus seems to us to encounter graver obstacles than the other hypotheses.

Tiphagion, then, appears to be an item of food, counted in units (and occasionally in fractions), individually of modest value. Derivation from φαγ- seems to us the most probable explanation, even if the precise route remains unclear. It would thus, like προσφάγιον, most likely be some foodstuff other than bread, although even that is not certain; in any event, bread from einkorn is not a credible candidate.

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<sup>47</sup> Other examples may be found in *P.Oxy.* III 498.33, 39; IV 736.46 etc.; *BGU* III 916.22; and a number of the Abu Mena ostraka republished under *SB XII* 10990.

<sup>48</sup> Cf. *P.Kell.* V Copt. 17.36n.



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