The Luna Expedition: An Overview from the Documents

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Abstract

The 1559-1561 expedition of Tristán de Luna was the largest and most well-financed Spanish attempt to colonize southeastern North America up to that time. Had it succeeded, New Spain would have expanded to include a settled terrestrial route from the northern Gulf of Mexico to the lower Atlantic coast. While a hurricane left most of the fleet and the colony's food stores on the bottom of Pensacola Bay just five weeks after arrival, the colonists nonetheless struggled to survive over the next two years, supported by multiple maritime relief expeditions as well as a temporary relocation into central Alabama and the dispatch of a military detachment as far north as the Appalachian foothills. Though Luna's Pensacola Bay settlement was ultimately abandoned, the documentary record of the expedition details both its maritime and terrestrial dimensions, and provides an important window into the mid-16th-century Spanish colonial world.

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On June 11, 1559, the fleet of Tristán de Luna set sail from Veracruz, Mexico with 1,500 colonists destined for the northern coast of the Gulf of Mexico. Following the orders of King Phillip II and the Viceroy of New Spain Luis de Velasco, and building on intelligence gathered from a number of previous failed expeditions to southeastern North America, Luna's expedition was to establish a first colony at Pensacola Bay in western Florida, then march inland to establish a second colony at the native province of Coosa in northwestern Georgia, before finally descending to the Atlantic coast to establish a third colony at Santa Elena on Port Royal Sound in southeastern South Carolina (Figure 1). Not only would Luna's colonies head off anticipated French colonial intrustions along the margins of the broader Spanish colonial empire, but they would also provide an overland route to the Atlantic from Mexico, avoiding the treacherous Bahama Channel off South Florida. Had Luna's expedition succeeded in annexing Florida as an extension of New Spain, the subsequent colonial history of the southeastern North America might well have proceeded very differently. Nonetheless, the eventual failure of the Luna expedition set the stage for the successful colonization of Florida just 4 years later by Pedro Menéndez de Avilés, whose Atlantic coast colony of St. Augustine stands to this day (Lyon 1976). Luna's misfortune also left an amazingly robust archaeological trace of this first attempted colonization of Florida from Mexico, and will doubtless provide fodder for amazing discoveries and important research for decades to come (e.g. Smith et al. 1995, 1998; Cook et al. 2009; Worth 2016a, 2016b).

The colonial expedition of Tristán de Luna was actually the third formal colony attempted by the Spanish within the southeastern United States, by then known to them as Florida following its 1513 discovery by Juan Ponce de León (Davis 1935; Lawson 1946; Peck 1992; Worth 2014:8-19, 43-86). Indeed, before Luna there had been at least 11 prior Spanish

expeditions documented to have reached the southeastern coast, including two that penetrated the interior (Figure 2). Attempted colonial settlements by Ponce de León himself in 1521 near modern Fort Myers, Florida, and by Lúcas Vázquez de Ayllón in 1526 near Brunswick, Georgia, had failed within a matter of weeks, and by the 1550s, the coveted region called Florida had claimed the lives of literally hundreds of explorers and colonists, including not just Ponce de León and Ayllón, but also later expedition leaders Pánfilo de Narváez in 1528, Hernando de Soto in 1542, and Luis Cancer in 1549 (Hoffman 1980, 1990, 1992, 1994; Hudson 1997; Clayton et al. 1993; Lowery 1911:411-427; Weddle 1985:38-54, 234-246; Worth 2014:23-28, 154-189). As of 1559, Spain still had no foothold in southeastern North America. Nevertheless, the Spanish crown maintained a strong interest in claiming Florida as its own, and increasingly bold incursions into Spain's growing New World empire by French explorers and pirates made the colonization of Florida an increasingly high priority, one that King Phillip II would ultimately finance with considerable direct expenditure of royal funds. As such, the Luna expedition became the most ambitious state-sponsored colonial expedition yet attempted in southeastern North America (Davila Padilla 1625; Priestley 2010; Hudson et al. 1989; Galloway 1995:143-160; Worth n.d.).

In its totality, Luna's expedition actually spanned a huge area of the Southeast (Figure 3), and can be broken down into three phases: the first colonization phase, the survival phase, and the second colonization phase. During the first colonization phase (Figure 4), which lasted from the end of 1557 to the September 19, 1559 hurricane that doomed it, Luna and the viceroy and various other colonial officials oversaw the assembly in New Spain of the 500-man army and its equipment and supplies, and the creation of a fleet to transport them to Pensacola, including the construction of four brand new vessels at San Juan de Ulua under modern-day Veracruz. The

expedition also included perhaps 1,000 additional people including servants, African slaves, a number of wives and children, and some 200 Aztec warriors and craftsmen enlisted from Mexico City itself. When the fleet of 11 ships and a 12th vessel in tow arrived in Pensacola Bay on August 15, they chose the high, level bluff of Emanuel Point to establish their first settlement, and spent the next five weeks offloading people and equipment and building Santa María de Ochuse, a town originally planned to encompass 140 house-lots including a central plaza and adjacent public structures. However, following the destruction of 7 ships and nearly all the expedition's food reserves in the hurricane of September 19-20, 1559, the survival phase (Figure 5) lasted some 19 months until mid-April of 1561, comprising the bulk of Spanish activity on land, including multiple strategies to keep the settlers alive and the expedition goals intact. External resupply included an initial expedition to resupply directly from Havana immediately after the hurricane, followed by four separate relief expeditions launched from Veracruz, arriving in Pensacola at 5-7 month intervals after the arrival of the first two relief ships three months after the hurricane. Survival strategies on land included the temporary relocation of most of Luna's forces inland to the Native American village of Nanipacana along the Alabama River in central Alabama for just over 4 months between February and June of 1560, and the dispatch of a 200-man detachment under Mateo del Sauz that spent 7 months in reaching, staying in, and returning from the Native chiefdom of Coosa in northwestern Georgia between April and November of the same year. Some 100 people remained at the Pensacola settlement throughout Luna's inland stay, but after deaths as well as the evacuation of many survivors with the second relief expedition, just 362 souls remained at Ochuse by September of 1560, not counting the other 200 at Coosa.

The third and final phase of the Luna expedition was actually undertaken by his replacement Angel de Villafañe, and involved the mounting of a second phase of colonization, this time with the goal of reaching Santa Elena by sea (Figure 6). Leading a small fleet to Pensacola by early April of 1561, Villafañe dismissed Luna to return to Spain, gathered most of the remaining 150 or so settlers at Ochuse, and departed for Havana, leaving only a detachment of 50 men to hold the Pensacola settlement. From Havana, four ships sailed north to land briefly at Santa Elena and several other locations before losing two small frigates and all aboard in yet another storm off Cape Hatteras. The two remaining ships limped back to the Caribbean before returning to evacuate the remaining garrison at Pensacola and return to New Spain in August of 1561. In February of the following year, the viceroy met with surviving leaders of the Luna expedition and officially abandoned the effort. Later that same year, French forces under Jean Ribault actually did settle in Santa Elena as had been feared by the Spanish, but that is another story (Bennett 2001).

Documentary research into the details of the Luna expedition has only accelerated since the 1992 discovery of the first Emanuel Point shipwreck, and this is exemplified by recent work by the University of West Florida as part of a broader Special Category Grant from the Florida Division of Historical Resources. Much of the following analysis is derived from this research, along with collateral research by current and recent-past UWF graduate students including Kelsey McGuire Bibo, Charles Bendig (2016), Kandiss Campbell, Jen Knutson, and Christina Bolte.

Several aspects of this research are worth reviewing briefly here. Building on my 2009 research reconstructing the tonnages of Luna's colonial fleet using aggregate pay figures (Worth 2009), I have recently analyzed crew rosters for a total of 24 ships dating to between 1523 and

1598, 13 of which also included vessel tonnages (Cook et al. 2016). These data provide useful details on which crew positions were nearly always present and in what relative proportions depending on vessel size, demonstrating that the lowest-paying positions of sailor, ship's boy, and cabin boy were not only the most numerous but also the most variable based on tonnage (Figure 7). This of course resulted in a complex relationship between tonnage and average total crew cost, which can be illustrated by graphs demonstrating that as ship size increased, the average per-crewmember cost actually decreased (Figures 8 and 9). Such research has allowed me to begin to refine my 2009 model for extrapolating vessel tonnages from crew pay records.

Another dimension of ongoing documentary research focuses on food and food-related material culture during Luna's era. Studying mid-16th-century Spanish colonial foodways provides insights not only into the documented provisions sent for the Luna expedition and subsequent attempts by the colonists to ration those provisions and supplement them locally, but also permits a better understanding of the material culture surrounding the transportation, storage, preparation, and consumption of such food both shipboard and on land, all of which is tremendously important for understanding the archaeology of the expedition. While financial accounts of the Luna expedition provide a detailed record of the huge amount of food brought on both the original expedition and subsequent relief expeditions, these data are best interpreted in the context of contemporaneous documentation of provisions from similar colonial contexts. To this end, I have recently made good progress in reviewing two categories of food provisions as a basis for comparison (Table 1). First, I have compiled, compared, and distilled provision lists for a total of 18 Spanish ships between 1558 and 1575, mostly departing from Spain (Cook et al. 2016). I have also done the same for some 13 different dispatches of provisions to Pedro Menéndez's earliest Florida forts between 1566 and 1570, mostly originating through Havana

(Bandera 1569; Menéndez Márquez 1572; Avalos 1572). Comparing the two datasets, maritime and terrestrial, provides useful information on both similarities and differences between the types and relative proportions of different foods, both solid and liquid (Figure 10). Though diets are broadly similar, it is important to note that although wheat dominates in both diets, almost exclusively in the form of hardtack on ships but predominantly as flour on land, the early Florida forts were also provisioned with several additional varieties of New World staples including corn and cassava root. Terrestrial Florida provisions also included greater relative amounts of beef over pork, considerably less fish, and proportionally less wine and vinegar than on board ships.

When provisions for Luna's 1559 colonizing fleet are added in for comparison (Figure 11), an even more stark difference can be seen, with wheat flour and hardtack dwarfed by the huge amount of corn, proportionally larger amounts of chickpeas accompanied by New World beans for the first time, and considerably larger proportions of beef, along with smaller relative proportions of wine, vinegar, and olive oil, and much more salt (Yugoyen 1569; Childers 1999). If we group the foods into broader categories, the proportionally smaller amounts of grains are visibly complemented by larger amounts of vegetables and proteins (Figure 12). Though my research in this area is still ongoing, eventually I plan to compare the relative caloric and nutritional value of these diets, especially with an eye toward establishing baselines for future archaeological reconstructions of diet at the Luna settlement under reported starvation conditions.

Several documentary records also provide insights into the details of the actual rationing procedures for shipboard sailors and passengers, generally specifying the precise quantities of each food item to be distributed on a daily, weekly, or even monthly basis, and sometimes including which days of the week were reserved for specific types of food (Table 2; Cook et al.

2016). Though these details vary somewhat between accounts, by distilling these amounts into an average daily ration, I have been able to compare these normal shipboard rations to the documented rationing scheme issued by Tristán de Luna late in the summer of 1560, when he ordered a detachment of 100 soldiers and 50 servants to travel inland from Ochuse to Coosa (Priestley 2010:v.2, 8-9). Although the expedition never took place, it nonetheless provides a glimpse into rationing under conditions of very limited supplies at Ochuse. And what it reveals is that even the soldiers were being issued considerably less food than their maritime counterparts would normally get per day, and soldiers actually received twice as much rations as their servants (Figure 13). In retrospect it is no wonder that the entire body of Luna's army rejected his ill-advised plan to traverse more than a hundred leagues into the interior on such pitiful rations.

Another aspect of Spanish colonial foodways that documentary research can give important information about is the normal range and proportionality of food-related material culture brought on maritime and terrestrial expeditions during this era. Two examples of this are provided by the inventories of equipment and supplies loaded on ships in the mid-16th-century, as exemplified by detailed records from the four largest vessels in a 1558 fleet departing Spain for the Indies (Cook et al. 2016), and another fleet of three galleons departing in 1575 (Valdes 1575a-c). When averaged, the per-ship inventory illustrates not only the types and numbers of objects that could be expected for any ship during this era, but also provides insights into norms of cooking and serving that also characterized terrestrial settlements and outposts as well (Tables 3 and 4). Communal food preparation of predominantly liquid foods over fire is demonstrated by a small number of large metal pots, cauldrons, and kettles, wooden and metal spoons, along with standard sets of liquid measures and funnels, balance scales and weights for measuring

solids, and firewood. Individualized food consumption, however, is demonstrated by large numbers of wooden or ceramic soup plates, drinking bowls and jars, and cups, roughly corresponding to one set per person.

Examination of personal estate inventories and auctions both from members of the Luna expedition (Table 5) and in comparison from many other individuals who died in Spain and the New World during to the same era confirms that only a small number of sailors and soldiers even owned their own tableware, with the majority of their possessions naturally comprised of clothing (Worth and Bratten 2014). This is clearly not because of cost; an examination of the relative average prices of various categories of material culture during the mid-16th-century (e.g. Toro 1544) indicates that ceramics were among the cheapest items available, while the average article of clothing could cost several weeks pay for a common soldier (Figure 14; Tables 6 and 7). Despite this, however, there is no record of bulk quantities of ceramic tableware or cookware having been purchased for the 1,500 people on the Luna expedition, nor even wood or metal equivalents (Table 8; Yugoyen 1569; Childers 1999). It seems most likely, therefore, that such items were transported in the more than 67 individual shipments of goods accompanying personnel organized primarily by military company, comprising a grand total of just over 125,000 kilos of uninventoried goods brought on the Luna expedition.

Indeed, it is precisely this fact that makes archaeological investigation of the remains of Luna's fleet and settlement so important, accompanied by a robust documentary investigation of the material parameters of daily life in and between Spain and its New World colonies during the mid-16th-century. Neither dataset is complete without the other, and the two together hold considerable promise for providing substantial and important insights into understanding the

Luna expedition as a pivotal chapter in the early Spanish colonial history of southeastern North America.

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1575c Relation of the provisions and munitions that have been delivered to Thomás Rodríguez, master of the galleon *San Thadeo* of the armada of his majesty of the guard of the Indies, April 10, 1575. Legajo 269, No. 1, Ramo 10, Patronato Real, Archivo General de Indias, Seville, Spain.

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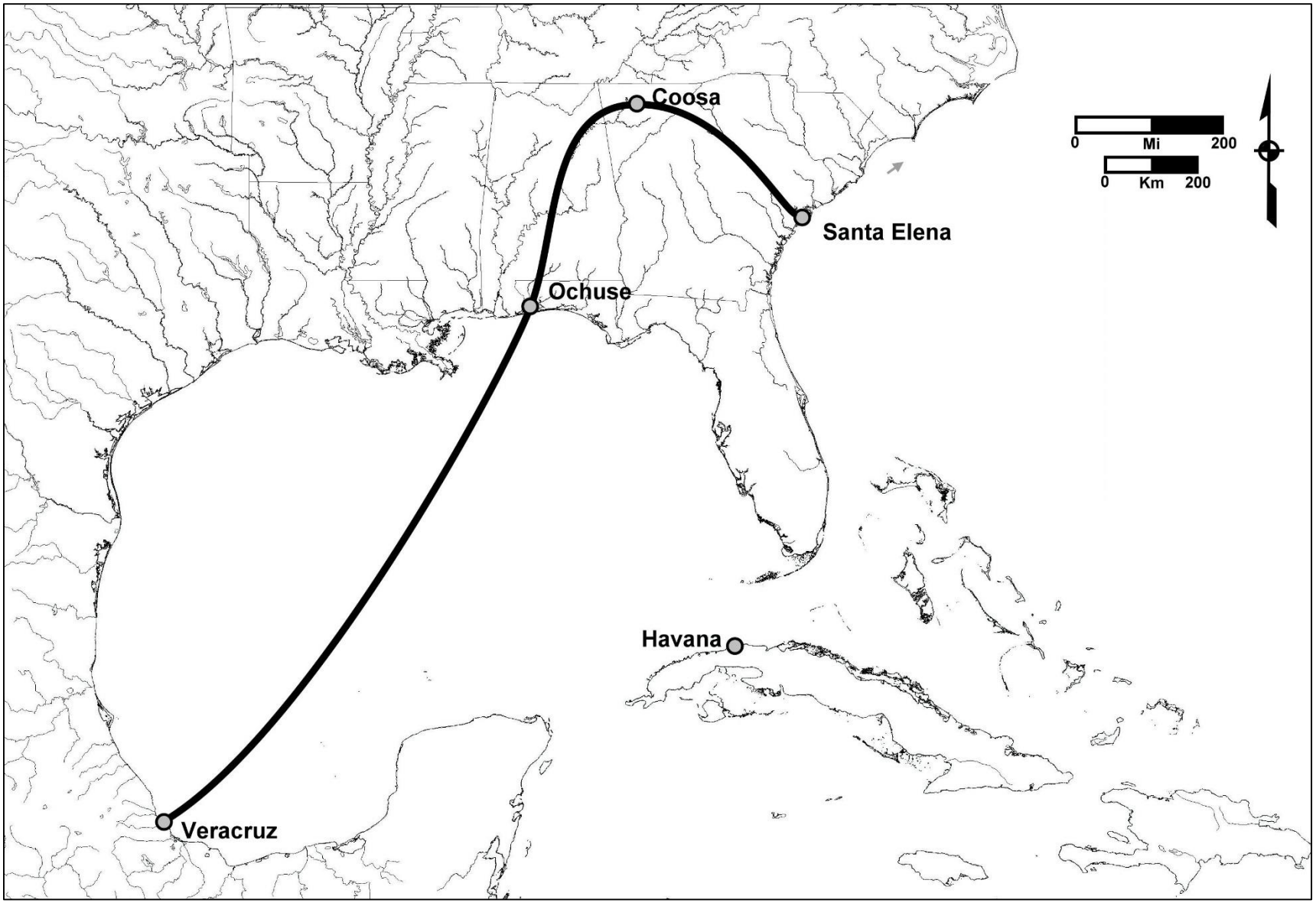

Figure 1: The 1559-1561 Tristán de Luna Expedition as Planned

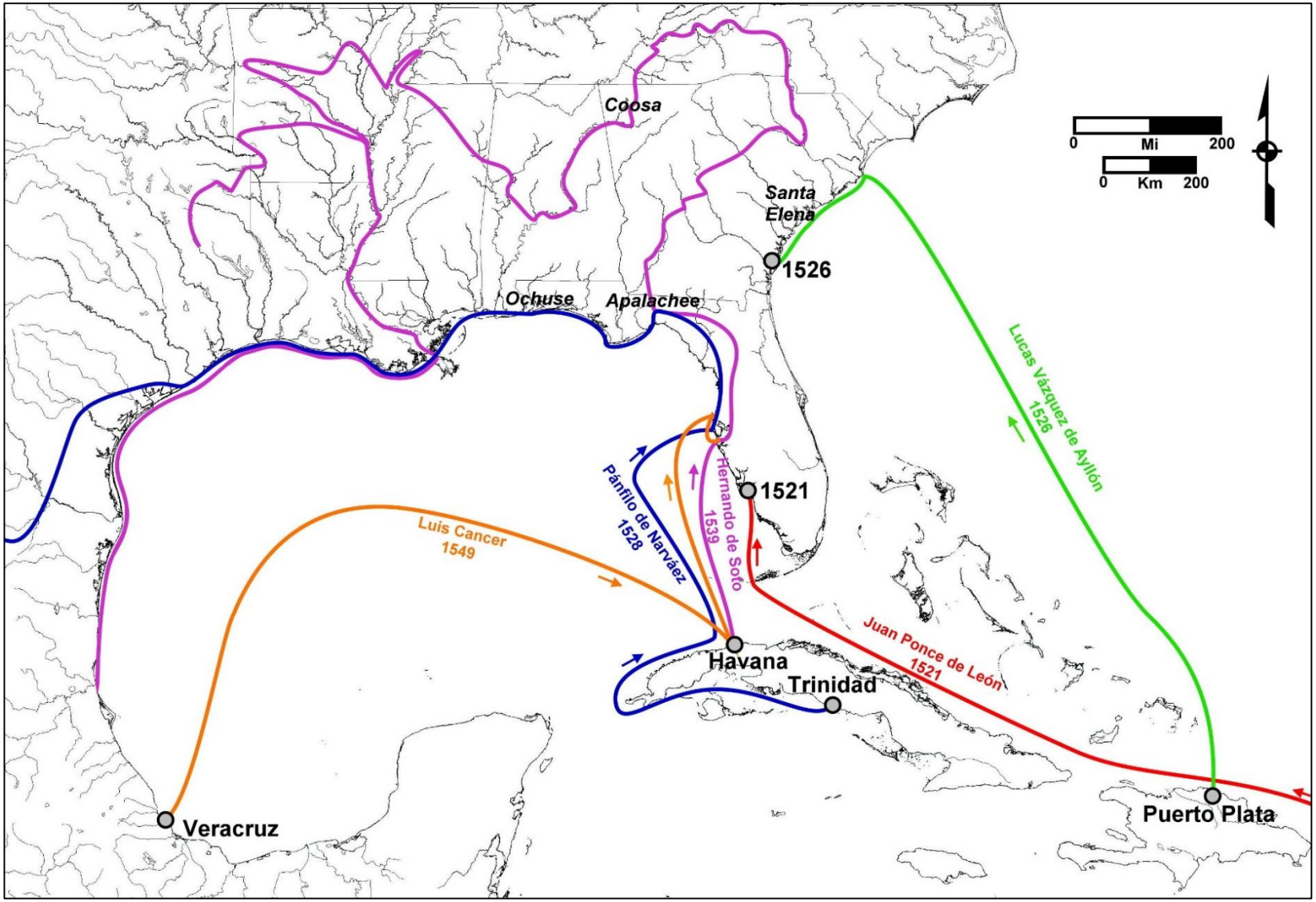

Figure 2: Major Spanish Expeditions and Settlements before Luna

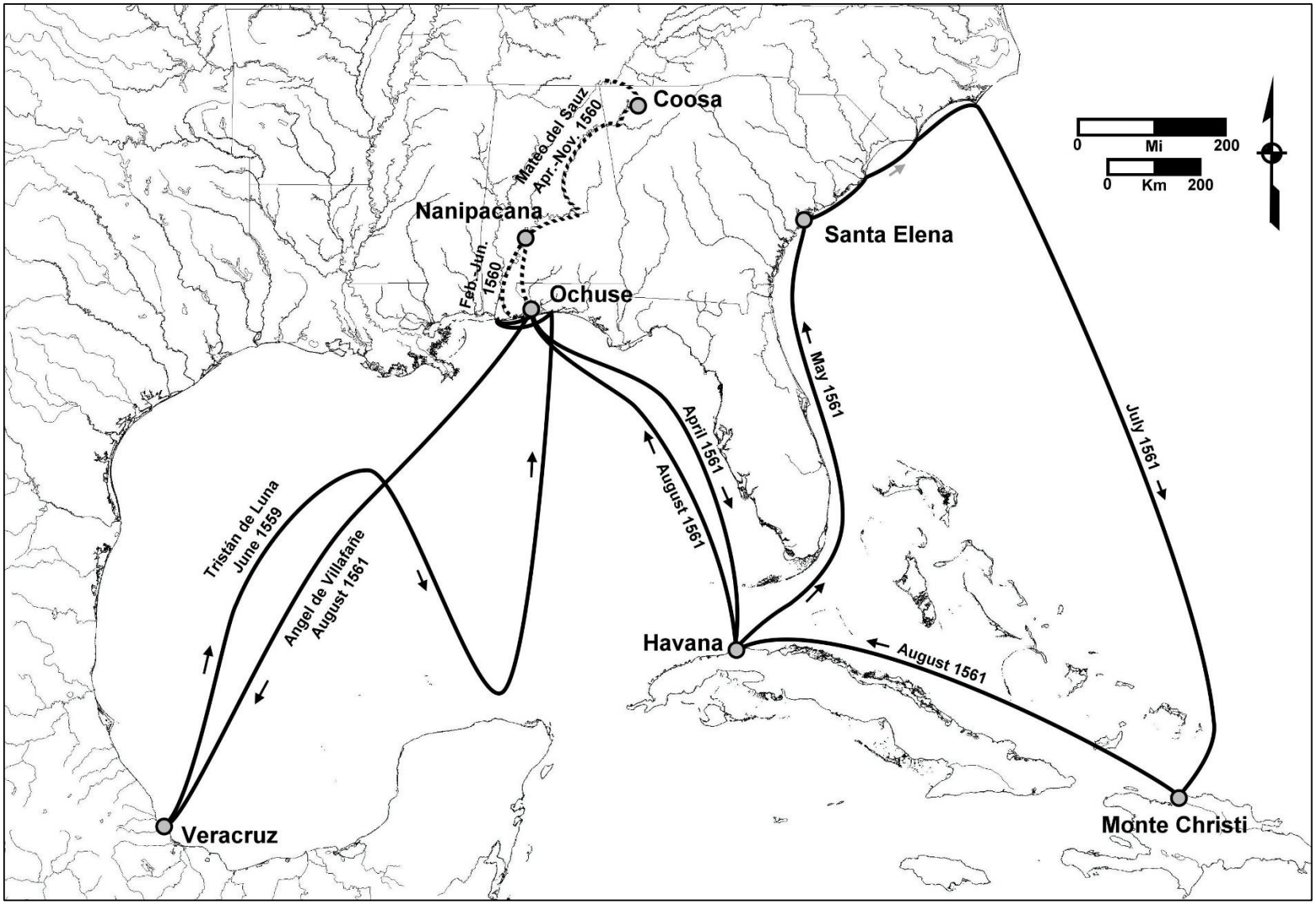

Figure 3: The 1559-1561 Tristán de Luna Expedition as Executed

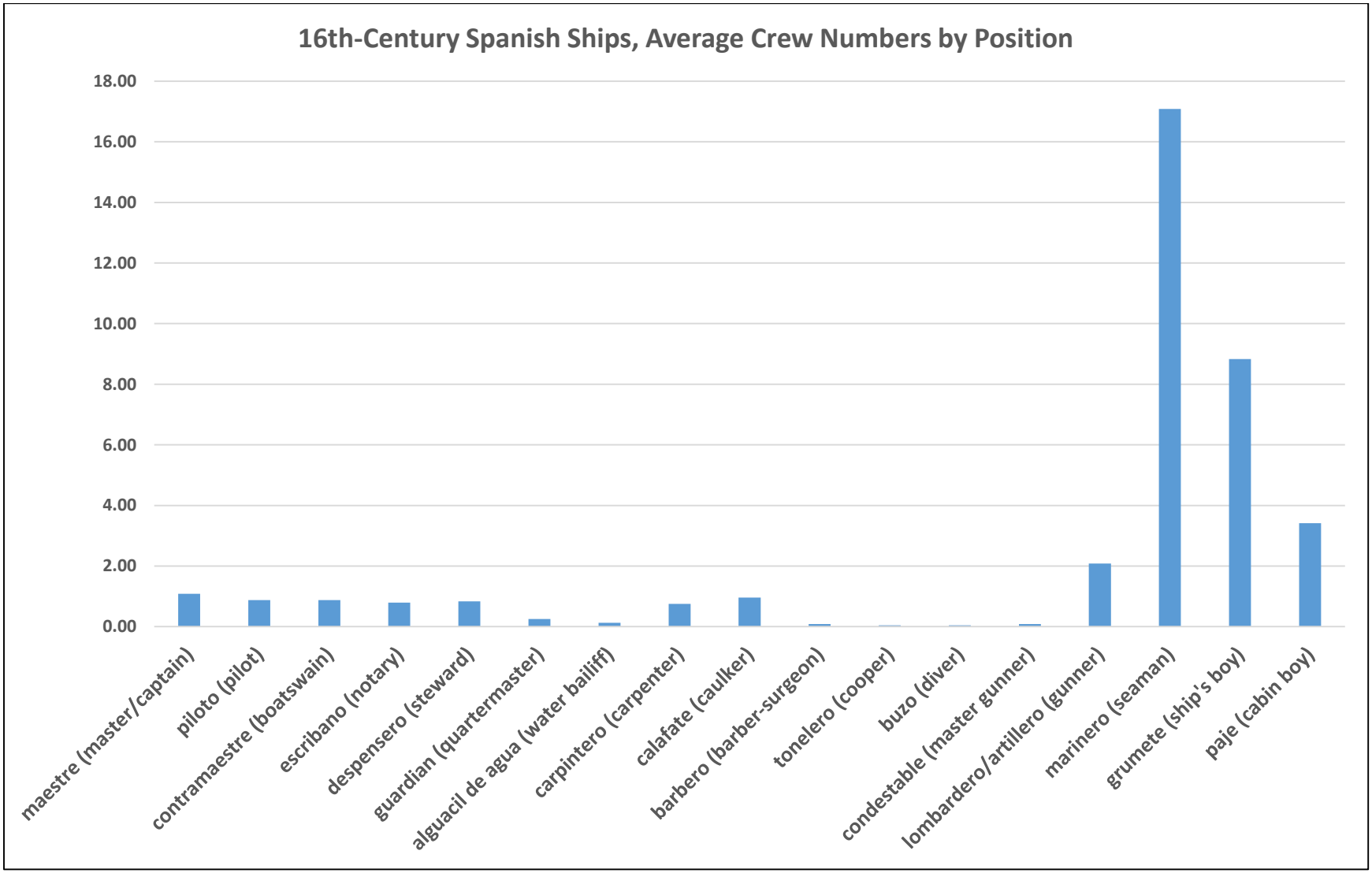
16th-Century Spanish Ships, Average Crew Numbers by Position
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
maestre (master/captain)
piloto (pilot)
contramaestre (boatswain)
escribano (notary)
despensero (steward)
guardian (quartermaster)
alguacil de agua (water bailiff)
carpintero (carpenter)
calafate (caulker)
barbero (barber-surgeon)
tonelero (cooper)
buzo (diver)
condestable (master gunner)
lombardero/artillero (gunner)
marinero (seaman)
grumete (ship's boy)
paje (cabin boy)

Figure 7

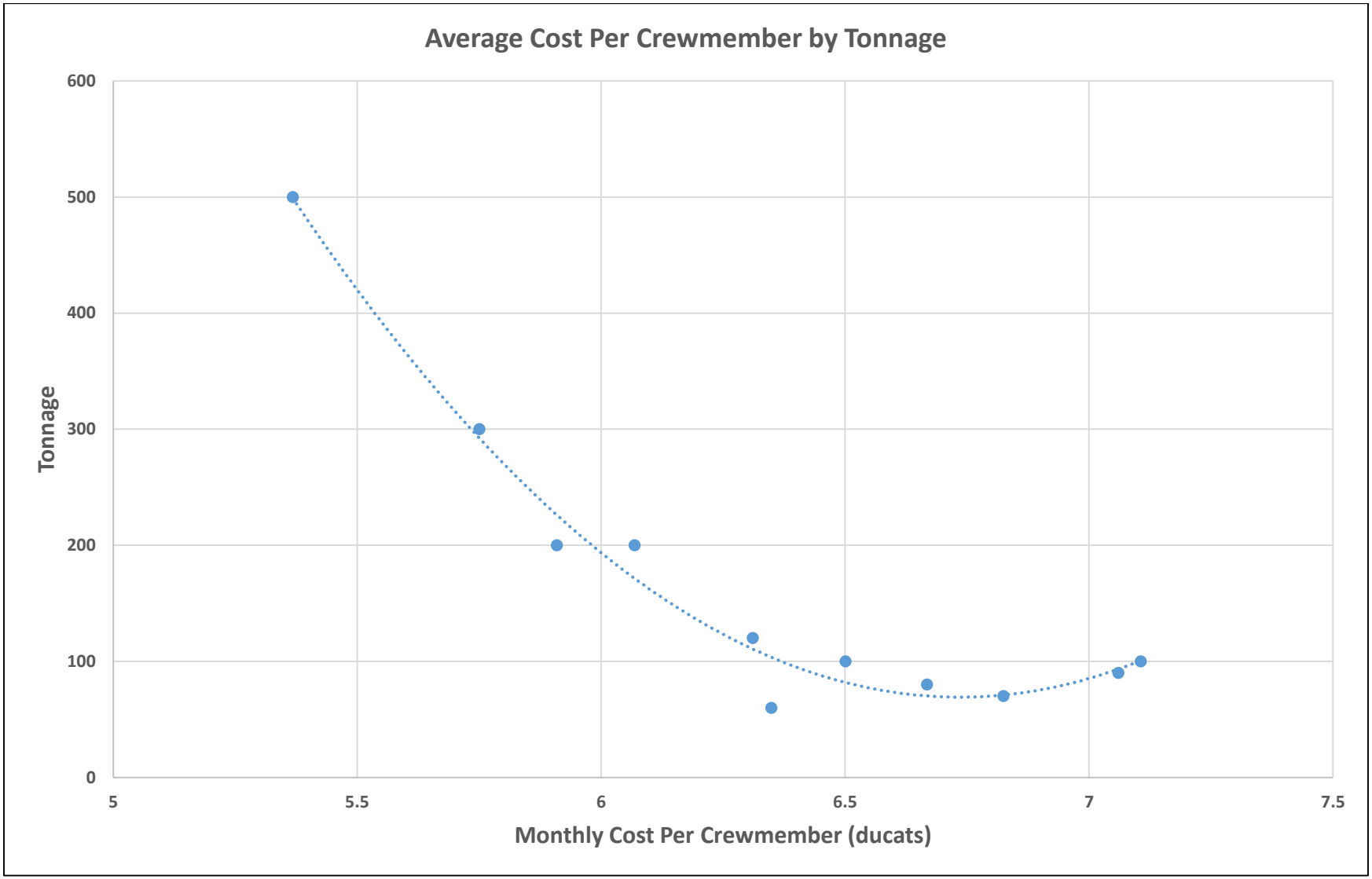
Average Cost Per Crewmember by Tonnage
Tonnage
600
500
400
300
200
100
0
5
5.5
6
6.5
7
7.5
Monthly Cost Per Crewmember (ducats)

Figure 8

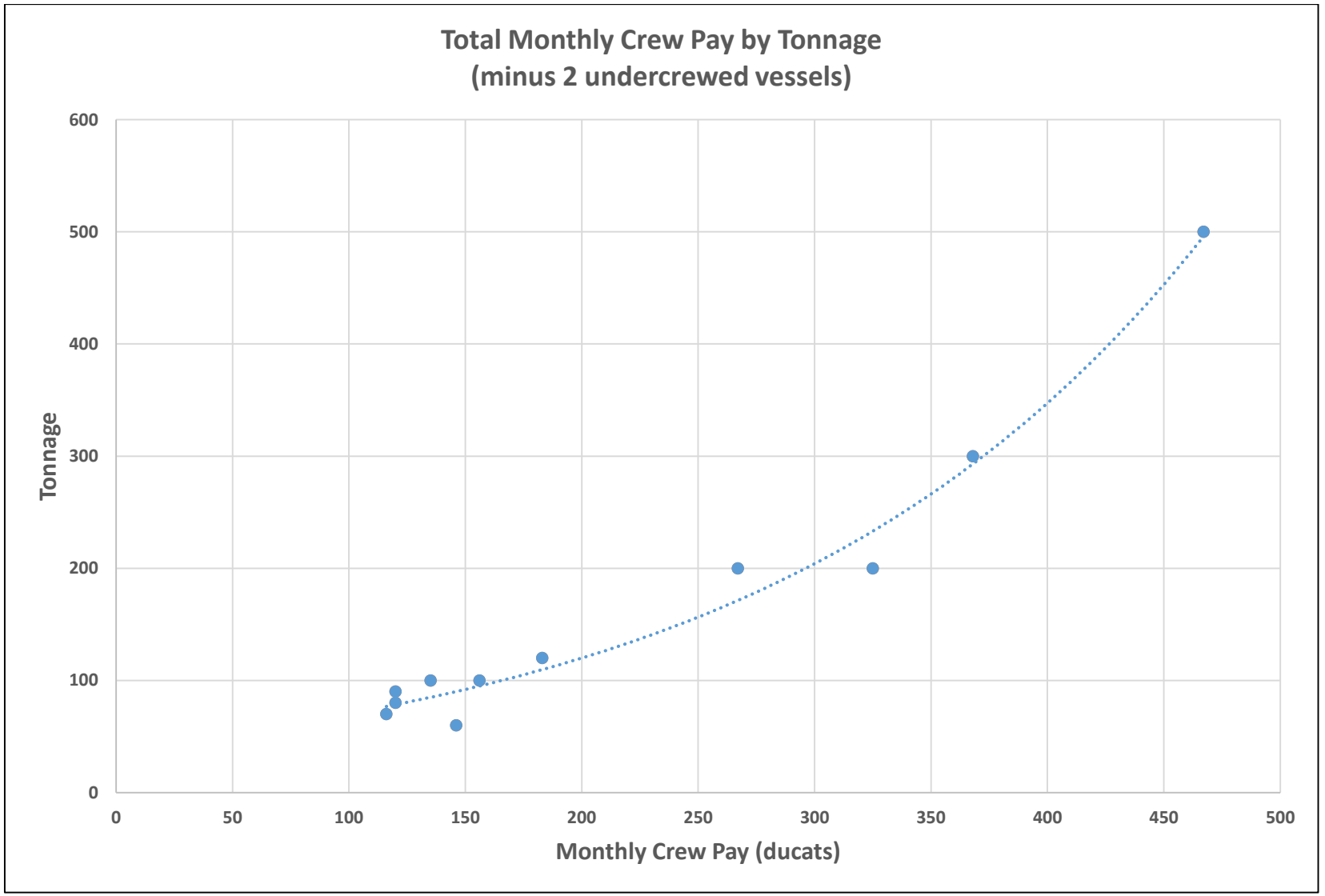
Total Monthly Crew Pay by Tonnage
(minus 2 undercrewed vessels)
Tonnage
600
500
400
300
200
100
0
0
50
100
150
200
250
300
350
400
450
500
Monthly Crew Pay (ducats)

Figure 9

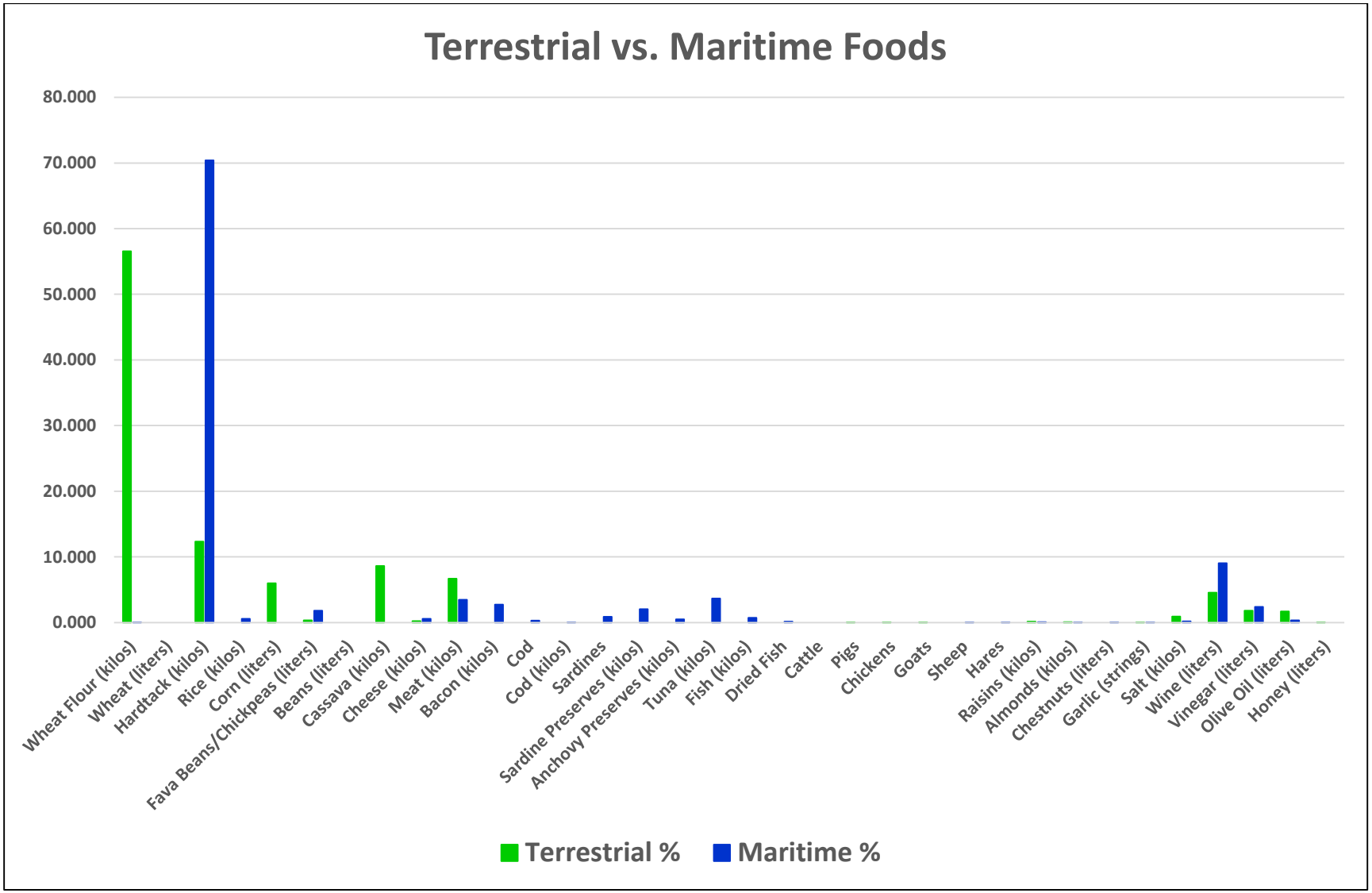
Terrestrial vs. Maritime Foods
80.000
70.000
60.000
50.000
40.000
30.000
20.000
10.000
0.000
Wheat Flour (kilos)
Wheat (liters)
Hardtack (kilos)
Rice (kilos)
Corn (liters)
Fava Beans/Chickpeas (liters)
Beans (liters)
Cassava (kilos)
Cheese (kilos)
Meat (kilos)
Bacon (kilos)
Cod
Cod (kilos)
Sardines
Sardine Preserves (kilos)
Anchovy Preserves (kilos)
Tuna (kilos)
Fish (kilos)
Dried Fish
Cattle
Pigs
Chickens
Goats
Sheep
Hares
Raisins (kilos)
Almonds (kilos)
Chestnuts (liters)
Garlic (strings)
Salt (kilos)
Wine (liters)
Vinegar (liters)
Olive Oil (liters)
Honey (liters)
Terrestrial %
Maritime %

Figure 10

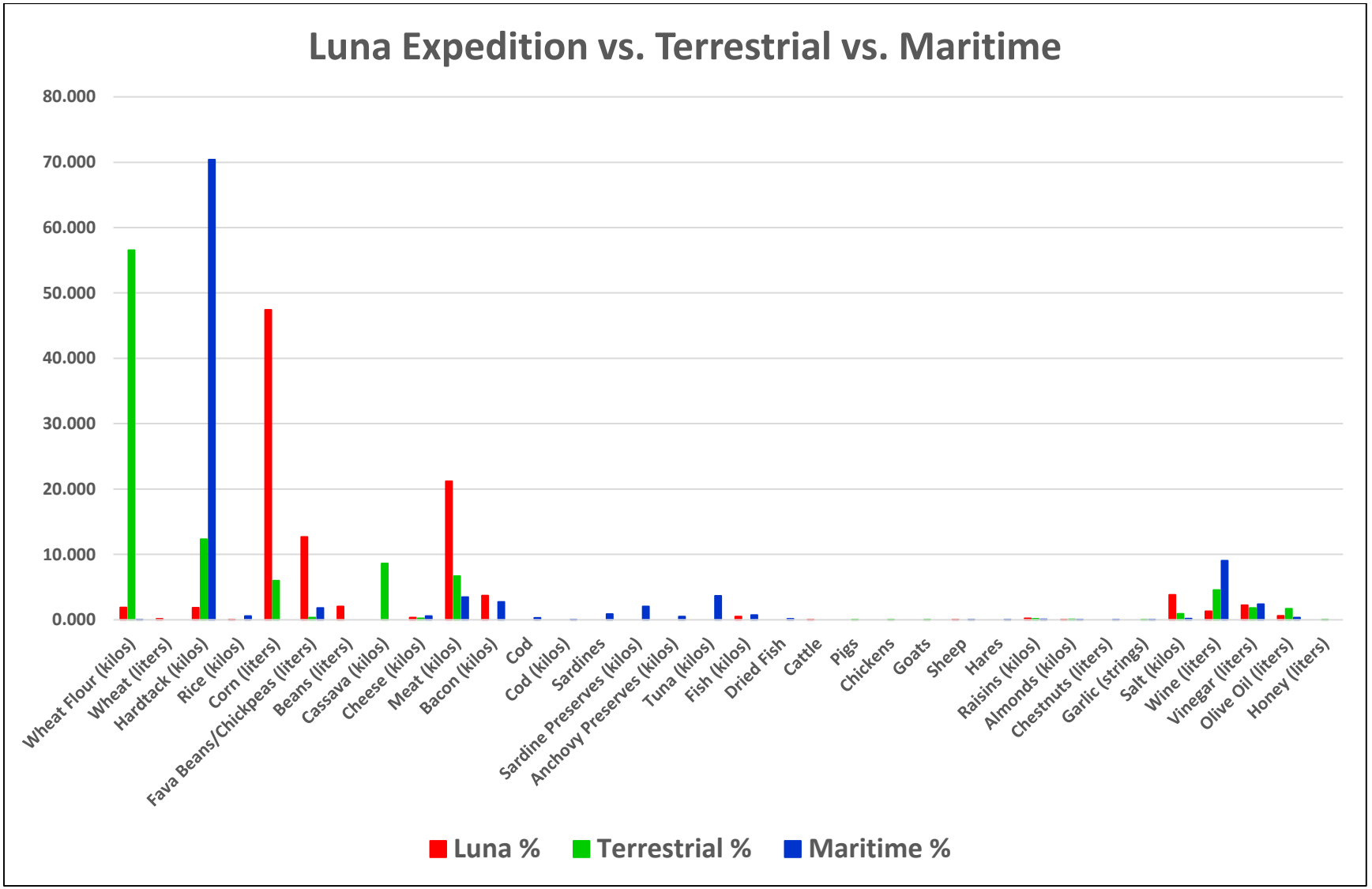
Luna Expedition vs. Terrestrial vs. Maritime
80.000
70.000
60.000
50.000
40.000
30.000
20.000
10.000
0.000
Wheat Flour (kilos)
Wheat (liters)
Hardtack (kilos)
Rice (kilos)
Corn (liters)
Fava Beans/Chickpeas (liters)
Beans (liters)
Cassava (kilos)
Cheese (kilos)
Meat (kilos)
Bacon (kilos)
Cod
Cod (kilos)
Sardines
Sardine Preserves (kilos)
Anchovy Preserves (kilos)
Tuna (kilos)
Fish (kilos)
Dried Fish
Cattle
Pigs
Chickens
Goats
Sheep
Hares
Raisins (kilos)
Almonds (kilos)
Chestnuts (liters)
Garlic (strings)
Salt (kilos)
Wine (liters)
Vinegar (liters)
Olive Oil (liters)
Honey (liters)
Luna %
Terrestrial %
Maritime %

Figure 11

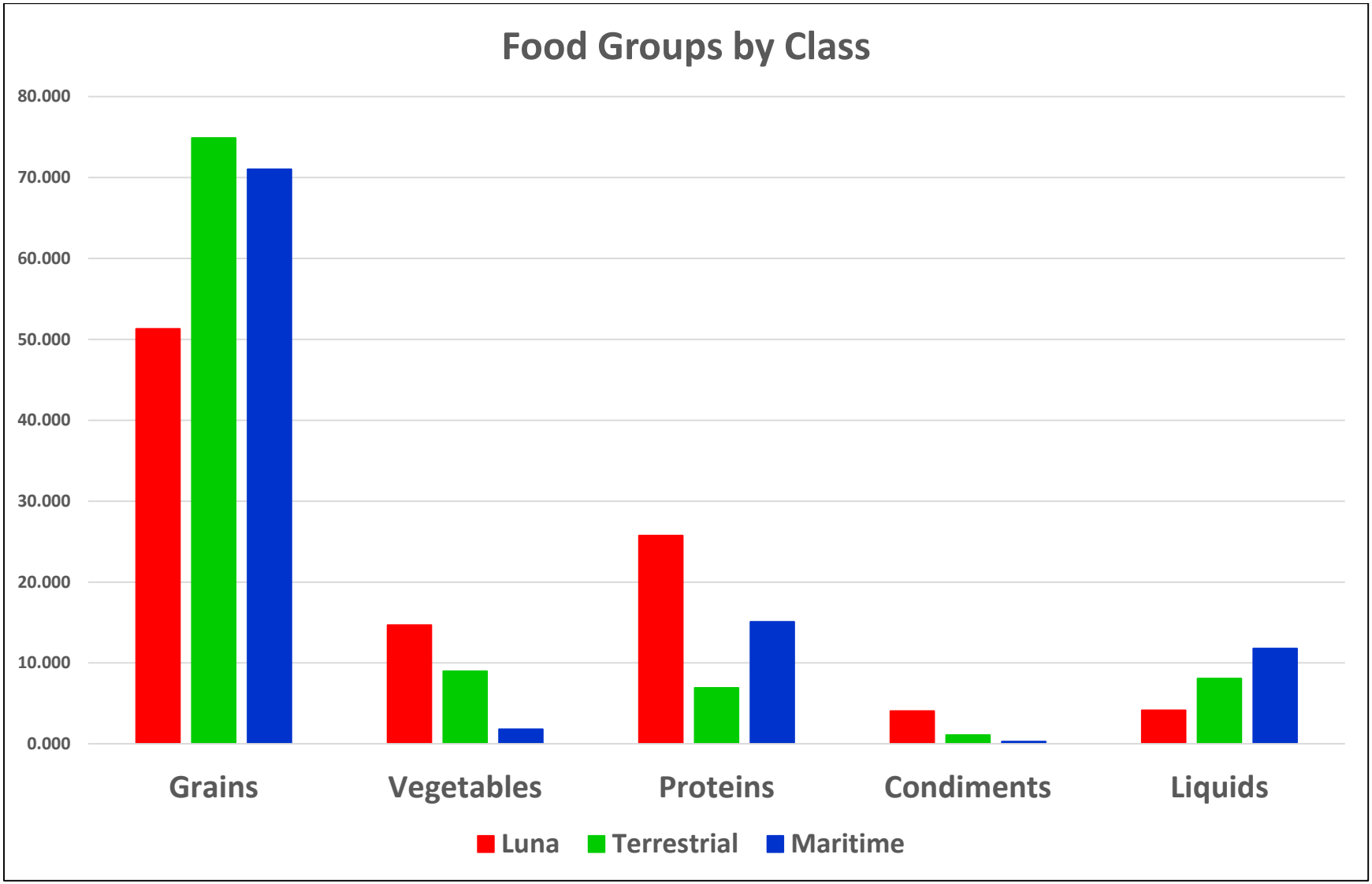
Food Groups by Class
80.000
70.000
60.000
50.000
40.000
30.000
20.000
10.000
0.000
Grains
Vegetables
Proteins
Condiments
Liquids
Luna
Terrestrial
Maritime

Figure 12

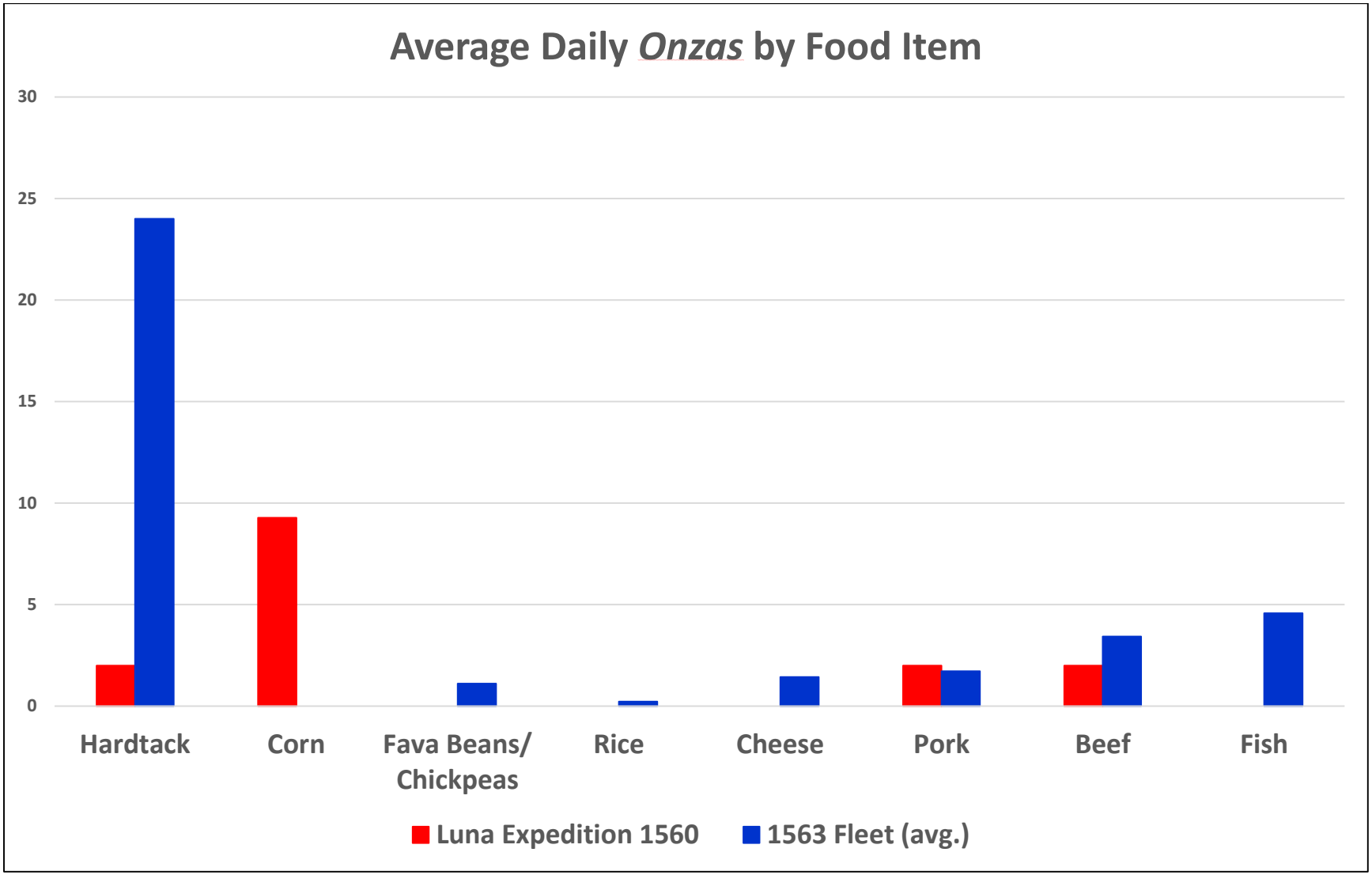
Average Daily *Onzas* by Food Item
30
25
20
15
10
5
0
Hardtack
Corn
Fava Beans/ Chickpeas
Rice
Cheese
Pork
Beef
Fish
Luna Expedition 1560
1563 Fleet (avg.)

Figure 13

Item (English) – 1558 Fleet (4 largest ships)	Total	Avg. per Ship
Pot, Large	5	1.25
Pot, Medium	2	0.5
Pot, Small	3	0.75
Cauldron, Large Copper	4	1
Jug, Copper (half *arroba* for wine)	8	2
Funnel	34	8.5
Funnel, Tinplate	6	1.5
Funnel, Wood	1	0.25
Measures, Copper (*azumbre*, *half azumbre*, *quartillo*, half *quartillo*)	29	7.25
Spoons, Iron	16	4
Oil Cruet, Tinplate	48	12
Ceramics: Half *Arroba*	30	7.5
Ceramics: Quarter *Arroba*	30	7.5
Ceramics: *jarro*	78	19.5
Ceramics: *jarillo*	60	15
Ceramics: *plato*	3	0.75
Ceramics: *plato* and *escudillas*, white	230	57.5
Ceramics: *plato*, yellow	270	67.5
Ceramics: *escudilla*, yellow	342	85.5
Ceramics: *taza*	6	1.5
Mat	100	25
Pail	45	11.25
Olive Jar	520	130
Cask	192	48
Butt	18	4.5
Barrel	48	12
Barrel Head	20	5
Tallow Candle (*libras*)	971	242.75
Binnacle Lamp, Tinplate	3	0.75
Firewood (cartloads)	61	15.25
Axe, Iron	30	7.5

Item (English) – 1575 Fleet (3 ships)	Total	Avg. per Ship
Pot, Copper	4	1.33
Kettle, Copper	1	0.33
Cauldron, Copper	4	1.33
Jug, Copper	6	2.00
Funnel, Tinplate	7	2.33
Funnel, Copper	4	1.33
Measure, Copper	9	3.00
Measure, Copper, 1/2 *cuartillo*	2	0.67
Measure, Copper, 1 *cuartillo*	2	0.67
Measure, Copper, 1/2 *azumbre*	2	0.67
Measure, Copper, 2 *azumbres*	1	0.33
Spoons, Wood	36	12.00
Spoons, Copper	25	8.33
Escudilla, Wood	396	132.00
Plato, Wood	336	112.00
Taza, Wood	96	32.00
Mat	6	2.00
Basket	28	9.33
Olive Jar	98	32.67
Cask	3	1.00
Balance Scale	8	2.67
Weight, 4 *libras*	8	2.67
Weight, 2 *libras*	8	2.67
Weight, 1 *libra*	8	2.67
Weight, 1/2 *libra*	8	2.67
Weight, 1/4 *libra*	8	2.67
Lantern	34	11.33
Firewood (cartloads)	6.5	2.17

Tables 3 and 4: Food-Related Equipment for 1558 and 1575 Fleets

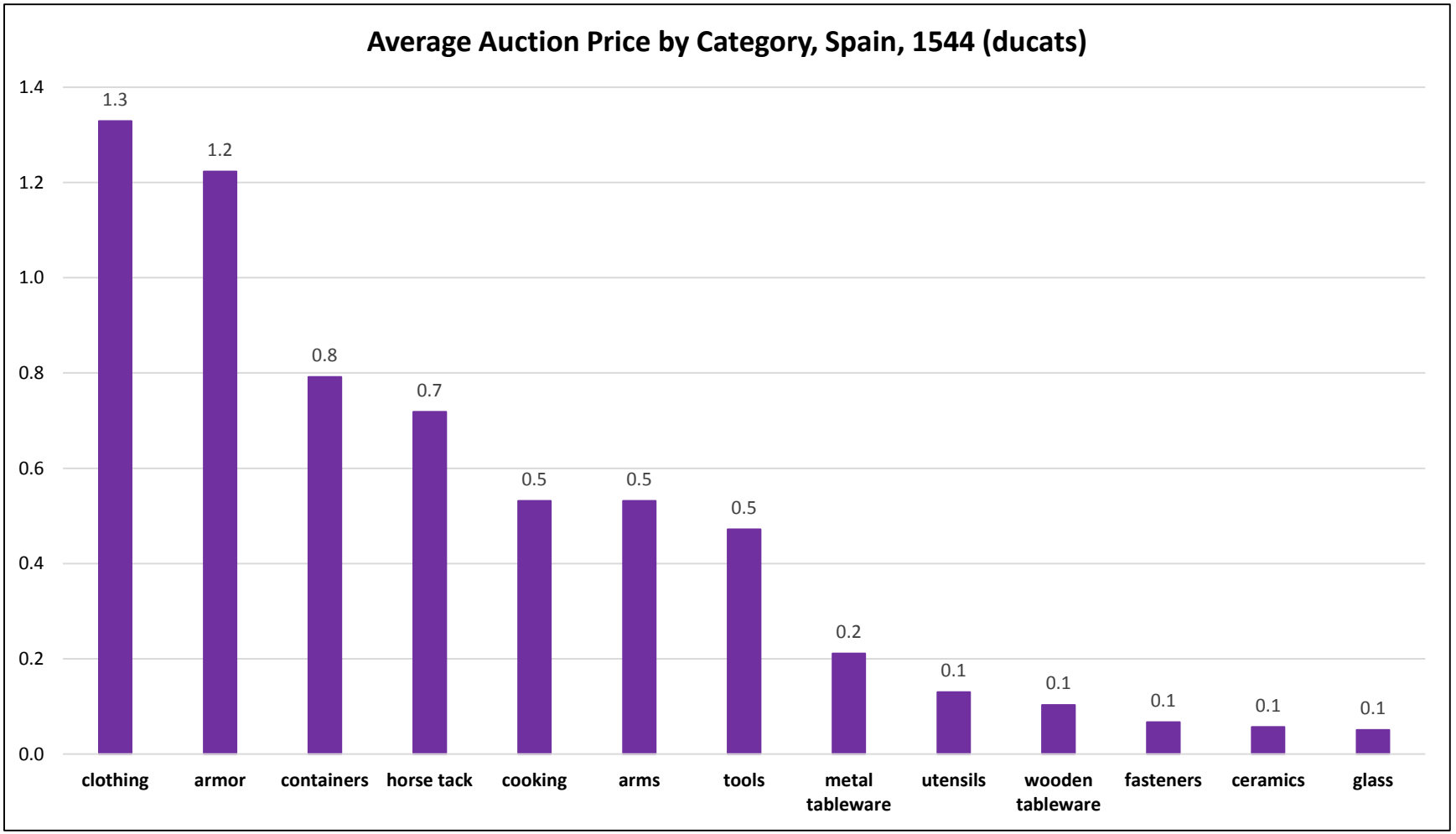
Average Auction Price by Category, Spain, 1544 (ducats)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1.3
1.2
0.8
0.7
0.5
0.5
0.5
0.2
0.1
0.1
0.1
0.1
0.1
clothing
armor
containers
horse tack
cooking
arms
tools
metal tableware
utensils
wooden tableware
fasteners
ceramics
glass

Figure 14

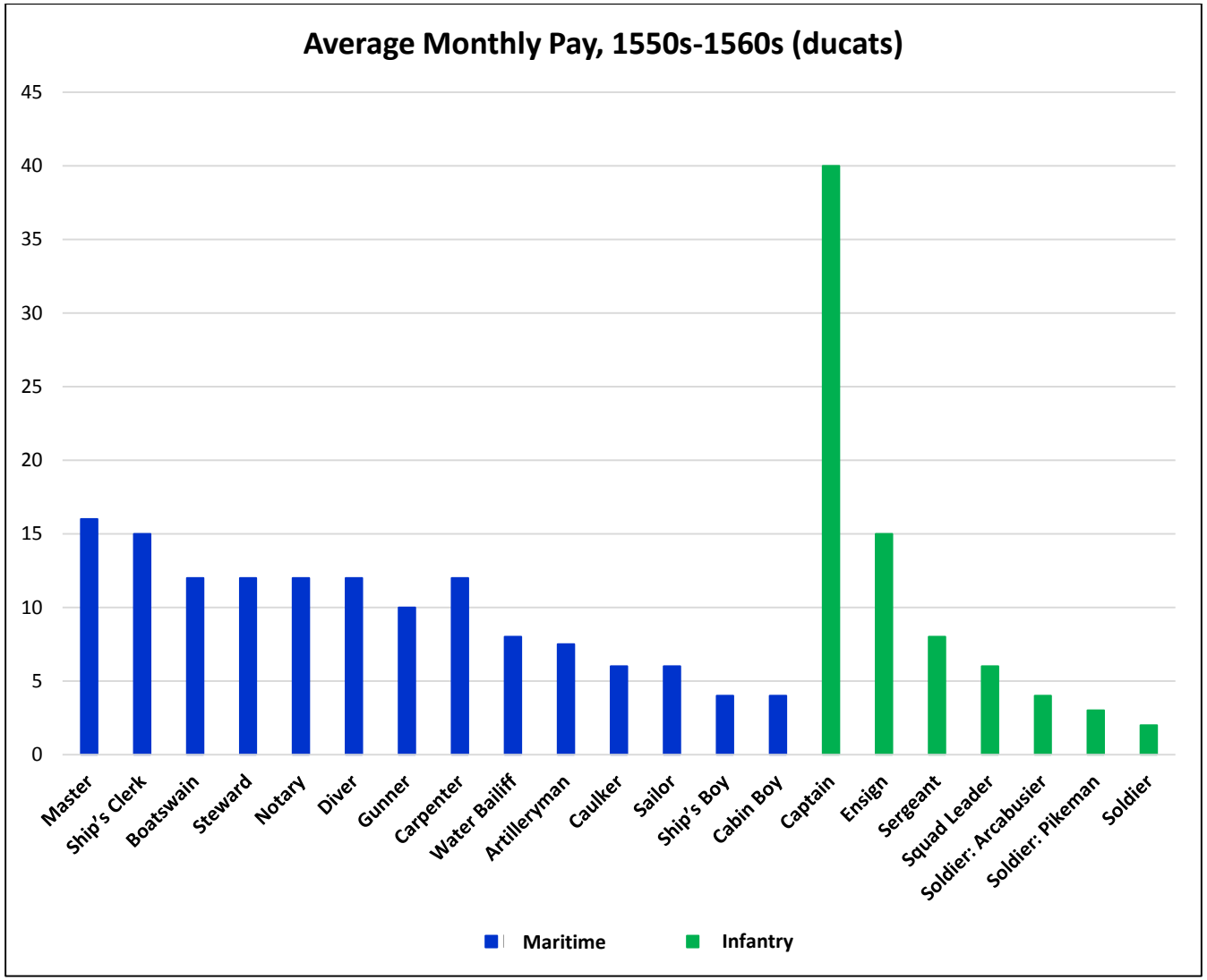
Average Monthly Pay, 1550s-1560s (ducats)
45
40
35
30
25
20
15
10
5
0
Master
Ship's Clerk
Boatswain
Steward
Notary
Diver
Gunner
Carpenter
Water Bailiff
Artilleryman
Caulker
Sailor
Ship's Boy
Cabin Boy
Captain
Ensign
Sergeant
Squad Leader
Soldier: Arcabusier
Soldier: Pikeman
Soldier
Maritime
Infantry

Figure 15