

*0 A.D. is Actually Before Christ*  
<https://github.com/0abc/0abc-a23.git>

A modification of *0 A.D. Empires Ascendant*  
version 0.0.23 *Alpha XXIII*: Ken Wood

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# 1 Introduction

**0abc** is an acronym for “0 A.D. is Actually Before Christ”. This mod tweaks, rebalances, and improves upon what already exists in the game. Amongst other things, it contains a moderate bonus attack counter and penalty system, more experience promotion ranks (0–12), and a new resource (silver).

**0abc** serves as a showcase for what 0 A.D. easily could be at the moment, as a playground for me experimenting with modifying the game to get used to the code structure, and as a platform for including my own opinions and views to have the game the way I like it. Being a test mod of an alpha-stage game, it is inherently imperfect, unfinished, and restricted by my limited programming skills and the files available in 0 A.D.’s latest stable release.

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## 1.1 Instructions

- Use `git clone https://github.com/0abc/0abc-a23.git` to get the repository directly or download it as a zip via `https://github.com/0abc/0abc-a22/archive/master.zip`
- Place it in your `/0ad/mods/` folder:
  - GNU/Linux (e.g. Fedora) typically: `~/.local/share/0ad/mods/`
  - Macintosh/Apple OS X typically: `~/Library/Application\ Support/0ad/mods/`
  - Microsoft Windows typically: `~\Documents\My Games\0ad\mods\`
- Launch 0 A.D., click “Settings” and “Mod Selection”
- Select **0abc**, click “Enable” and “Save Configuration”
- Add, remove, or move up or down any other mods, click “Save Configuration” and “Start Mods”
- Click “Learn To Play” and “Structure Tree” to see the mod(s) implemented.

## 2 Units

### 2.1 Population costs

- 0: fauna, catafalques, ships
- 1: infantry, women, healers, traders
- 2: camelry, cavalry
- 3: worker elephants
- 4: bigae, battering rams, bolt shooters, stone throwers
- 5: –
- 6: quadrigae, war elephants, siege towers

### 2.2 Counters

unit	new penalties	new bonuses	restricted
war dogs	–	–	Ships, Siege, Stru
infantry archers	0.5× vs Elephantry	–	–
infantry axe throwers	–	–	–
infantry crossbowmen	0.75× vs Elephantry	–	–
infantry longbowmen	0.5× vs Elephantry	–	–
infantry javelinists	–	–	–
infantry lead slingers	–	–	–
infantry stone slingers	–	–	–
infantry axemen	–	–	–
infantry hoplites	–	–	–
infantry longswordsmen	–	–	–
infantry macemen	–	–	–
infantry pikemen	–	–	–
infantry sabremen	–	–	–
infantry spearmen	–	–	–
infantry swordsmen	–	–	–
camel archers	0.5× vs Elephantry	–	–
camel javelinists	–	–	–
camel spearmen	0.5× vs Elephantry	–	–
cavalry archers	0.5× vs Elephantry	–	–
cavalry crossbowmen	0.75× vs Elephantry	–	–
cavalry javelinists	–	–	–
cavalry axemen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry lancers	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry macemen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry sabremen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry spearmen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry swordsmen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
biga archers	0.5× vs Elephantry	–	Ships, Siege, Stru
biga javelinists	–	–	Ships, Siege, Stru
quadriga archers	0.5× vs Elephantry	–	Ships, Siege, Stru
war elephants	–	–	–
bolt shooter	–	–	–
stone thrower	–	2.0× vs Ships	–
battering ram	–	2.0× vs Defensive	Organic
siege tower	–	–	–

## 2.3 Infantry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
infantry	1	30, 30, 0, 0, 0; 60	60/–	75	11.0	60	2, 2, 2, 2	0, 0, 5, 0	1000	60	
archer	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(9.9)	(50)	(10, 1, 1, –)	(0, 0, 6, –)	(1000)	(72)	
infantry	1	30, 30, 0, 0, 0; 40	60/–	75	11.0	60	2, 2, 2, 2	2, 6, 0, 0	1000	15	
axe thrower	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(12.6)	(50)	(10, 1, 1, –)	(0, 0, 16, –)	(1250)	(24)	
infantry	1	30, 30, 0, 0, 0; 50	60/–	75	11.0	60	2, 2, 2, 2	0, 0, 5, 0	1000	60	
crossbowman	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(9.9)	(50)	(10, 1, 1, –)	(0, 0, 6, –)	(1000)	(72)	
infantry	1	30, 30, 0, 0, 0; 45	60/–	75	11.0	60	2, 2, 2, 2	0, 0, 12, 0	1000	30	
javelinist	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(12.6)	(50)	(10, 1, 1, –)	(0, 0, 16, –)	(1250)	(24)	
infantry	1	30, 30, 0, 0, 0; 75	60/–	75	11.0	60	2, 2, 2, 2	0, 0, 4, 0	1000	75	
lead slinger	(1)	(–, 50, 20, 0, 30; 10)	(100/100)	(80)	(10.8)	(50)	(10, 1, 1, –)	(1, 0, 9.5, –)	(1250)	(48)	
infantry	1	30, 30, 0, 0, 0; 55	60/–	75	11.0	60	2, 2, 2, 2	0, 0, 5, 0	1000	60	
longbowman	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(9.9)	(50)	(10, 1, 1, –)	(0, 0, 6, –)	(1000)	(72)	
infantry	1	30, 30, 0, 0, 10; 70	60/–	75	11.0	60	2, 2, 2, 2	6, 0, 0, 0	1000	45	
stone slinger	(1)	(–, 50, 20, 0, 30; 10)	(100/100)	(80)	(10.8)	(50)	(10, 1, 1, –)	(1, 0, 9.5, –)	(1250)	(48)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	2, 4, 0, 0	1000	3	
axeman	(1)	(–, 50, 40, 10, 0; 10)	(100/100)	(80)	(9.45)	(100)	(15, 5, 5, –)	(0, 5.5, 0, –)	(750)	(3.5)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	0, 1, 0, 5	1000	3	
hoplite	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(8.55)	(100)	(15, 5, 5, –)	(0, 3.0, 2.5, –)	(1000)	(4.5)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	0, 4, 0, 2	1000	3	
longswordsman	(1)	(–, 50, 40, 10, 0; 10)	(100/100)	(80)	(9.45)	(100)	(15, 5, 5, –)	(0, 5.5, 0, –)	(750)	(3.5)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	6, 0, 0, 0	1000	3	
maceman	(1)	(–, 50, 40, 10, 0; 10)	(100/100)	(80)	(9.45)	(100)	(15, 5, 5, –)	(0, 5.5, 0, –)	(750)	(3.5)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	0, 0, 3, 3	1000	6	
pikeman	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(7.2)	(100)	(15, 10, 10, –)	(0, 1.0, 3.0, –)	(2000)	(7.0)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	0, 6, 0, 0	1000	3	
sabreman	(1)	(–, 50, 40, 10, 0; 10)	(100/100)	(80)	(9.45)	(100)	(15, 5, 5, –)	(0, 5.5, 0, –)	(750)	(3.5)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	0, 0, 0, 6	1000	3	
spearman	(1)	(–, 50, 50, 0, 0; 10)	(100/100)	(80)	(8.55)	(100)	(15, 5, 5, –)	(0, 3.0, 2.5, –)	(1000)	(4.5)	
infantry	1	30, 30, 0, 0, 0; 30	60/–	75	10.0	90	4, 4, 4, 4	0, 3, 0, 3	1000	3	
swordsman	(1)	(–, 50, 40, 10, 0; 10)	(100/100)	(80)	(9.45)	(100)	(15, 5, 5, –)	(0, 5.5, 0, –)	(750)	(3.5)	

## 2.4 Camelry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
camel	2	50, 75, 0, 0, 0; 75	90/−	85	18.0	110	1, 1, 1, 1	0, 0, 6, 0	1000	68	
archer	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(17.55)	(100)	(15, 3, 1, −)	(0, 0, 7, −)	(1000)	(72)	
camel	2	50, 75, 0, 0, 0; 60	90/−	85	18.0	110	1, 1, 1, 1	0, 0, 15, 0	1000	34	
javelinist	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(17.55)	(100)	(15, 3, 1, −)	(0, 0, 18, −)	(1250)	(28)	
camel	2	50, 75, 0, 0, 0; 45	90/−	85	18.0	135	2, 2, 2, 2	0, 0, 0, 8	1000	3	
spearman	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(19.305)	(160)	(15, 4, 3, −)	(0, 6, 5, −)	(2000)	(4.5)	

## 2.5 Cavalry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
cavalry	2	60, 90, 0, 0, 0; 90	120/−	80	15.0	120	1, 1, 1, 1	0, 0, 6, 0	1000	64	
archer	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(17.55)	(100)	(15, 3, 1, −)	(0, 0, 7, −)	(1000)	(72)	
cavalry	2	60, 90, 0, 0, 0; 80	120/−	80	15.0	120	1, 1, 1, 1	0, 0, 9, 0	1000	48	
crossbowman	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(17.55)	(100)	(15, 3, 1, −)	(0, 0, 7, −)	(1000)	(72)	
cavalry	2	60, 90, 0, 0, 0; 75	120/−	80	15.0	120	1, 1, 1, 1	0, 0, 15, 0	1000	32	
javelinist	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(17.55)	(100)	(15, 3, 1, −)	(0, 0, 18, −)	(1250)	(28)	
cavalry	2	60, 90, 0, 0, 0; 60	120/−	80	15.0	150	3, 3, 3, 3	2, 6, 0, 0	1000	3	
axeman	(1)	(−, 100, 30, 20, 0; 15)	(130/150)	(92)	(21.06)	(160)	(15, 4, 2, −)	(0, 6.5, 0, −)	(750)	(3.5)	
cavalry	2	60, 90, 0, 0, 0; 60	120/−	80	15.0	150	3, 3, 3, 3	1, 0, 0, 8	1000	3	
lancer	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(19.305)	(160)	(15, 4, 3, −)	(0, 6, 5, −)	(2000)	(4.5)	
cavalry	2	60, 90, 0, 0, 0; 60	120/−	80	15.0	150	3, 3, 3, 3	7, 0, 0, 0	1000	3	
maceman	(1)	(−, 100, 30, 20, 0; 15)	(130/150)	(92)	(21.06)	(160)	(15, 4, 2, −)	(0, 6.5, 0, −)	(750)	(3.5)	
cavalry	2	60, 90, 0, 0, 0; 60	120/−	80	15.0	150	3, 3, 3, 3	0, 8, 0, 0	1000	3	
sabreman	(1)	(−, 100, 30, 20, 0; 15)	(130/150)	(92)	(21.06)	(160)	(15, 4, 2, −)	(0, 6.5, 0, −)	(750)	(3.5)	
cavalry	2	60, 90, 0, 0, 0; 60	120/−	80	15.0	150	3, 3, 3, 3	0, 0, 0, 9	1000	3	
spearman	(1)	(−, 100, 50, 0, 0; 15)	(130/150)	(92)	(19.305)	(160)	(15, 4, 3, −)	(0, 6, 5, −)	(2000)	(4.5)	
cavalry	2	60, 90, 0, 0, 0; 60	120/−	80	15.0	150	3, 3, 3, 3	0, 6, 0, 2	1000	3	
swordsman	(1)	(−, 100, 30, 20, 0; 15)	(130/150)	(92)	(21.06)	(160)	(15, 4, 2, −)	(0, 6.5, 0, −)	(750)	(3.5)	

## 2.6 Chariotry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
biga	4	120, 180, 0, 0, 0; 75	180/−	85	16.0	240	5, 5, 5, 5	0, 0, 7, 0	1000	72	arrow count: 1–2 (−)
archer	(1)	(−, 250, 100, 100, 0; 30)	(150/−)	(96)	(20.25)	(240)	(20, 7, 5, −)	(0, 0, 14, −)	(1000)	(76)	
biga	4	120, 180, 0, 0, 0; 75	180/−	85	16.0	240	5, 5, 5, 5	0, 0, 21, 0	1000	36	arrow count: 1–2 (−)
javelinist	(1)	(−, 250, 100, 100, 0; 30)	(150/−)	(96)	(20.25)	(240)	(20, 7, 5, −)	(0, 0, 36, −)	(1250)	(32)	
quadriga	6	180, 300, 0, 0, 0; 75	240/−	85	17.0	360	6, 6, 6, 6	0, 0, 8, 0	1000	72	arrow count: 1–2 (−)
archer	(1)	(−, 250, 100, 100, 0; 30)	(150/−)	(96)	(20.25)	(240)	(20, 7, 5, −)	(0, 0, 14, −)	(1000)	(76)	

2.7 Elephantry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
war elephant	6 (3)	300, 300, 0, 0, 0; 90 (-, 250, 0, 250, 0; 30)	360/- (150/-)	90 (100)	12.0 (8.45)	600 (750)	20, 5, 15, 10 (25, 10, 10, -)	60, 0, 0, 0 (150, 20, 0, -)	1000 (1500)	6 (8)	

2.8 Dogs

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
war dog	0 (0)	0, 30, 0, 0, 0; 15 (-, 100, 0, 0, 0; 15)	15/- (100/100)	30 (30)	14.0 (14.40)	30 (90)	1, 1, 2, 1 (1, 1, 2, -)	0, 0, 6, 0 (0, 7, 2, -)	1000 (1000)	2 (3)	

2.9 Support

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
woman (female citizen)	1 (1)	30, 30, 0, 0, 0; 60 (-, 50, 0, 0, 0; 8)	-/- (10/-)	60 (32)	9.0 (9.0)	45 (25)	1, 1, 1, 1 (1, 1, 1, -)	5, 0, 0, 0 (0, 2, 0, -)	1000 (1000)	15 (3)	build rate: - (1.0)
slave	1 (0)	50, 0, 0, 0, 0; 60 (-, 0, 0, 50, 0; 20)	-/- (10/-)	60 (12)	9.0 (9.0)	45 (100)	1, 1, 1, 1 (1, 1, 1, -)	- (-)	- (-)	- (-)	build rate: 0.5 (0.5)
healer	1 (1)	50, 30, 0, 0, 0; 60 (-, 250, 0, 0, 0; 8)	-/- (10/150)	60 (30)	9.0 (9.0)	75 (85)	1, 1, 1, 1 (1, 1, 1, -)	heal 1 HP (heal 5 HP)	500 (2000)	12 (12)	
trader	1 (1)	0, 50, 50, 50, 0; 60 (-, 100, 0, 80, 0; 15)	-/- (10/-)	60 (60)	9.0 (9.0)	100 (100)	1, 1, 1, 1 (1, 1, 1, -)	- (-)	- (-)	- (-)	trade gain: 0.75 (0.75)
worker elephant	3 (1)	0, 150, 0, 0, 0; 60 (-, 150, 0, 0, 0; 20)	-/- (50/-)	60 (50)	5.4 (5.4)	450 (300)	9, 3, 7, 5 (10, 5, 8, -)	- (-)	- (-)	- (-)	build rate: 2.0 (2.0)

2.10 Siege weapons

class	pop. size	construction costs (s, f, w, m, s; time)	exp. loot/up	vision range packed/unpacked	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
bolt shooter	4 (2)	0, 100, 150, 150, 0; 80 (-, 0, 250, 250, 0; 20)	-/- (200/-)	50/100 (120)	8.0 (8.1)	200 (200)	5, 1, 50, 2 (5, 1, 50, -)	0, 0, 100, 50 (25, 0, 150, -)	5000 (4000)	15-90 (26-80)	un/pack (ms): 9000 (10000) l. splash: - (5c+0h+75p)
stone thrower	4 (2)	0, 100, 200, 100, 0; 100 (-, 0, 400, 0, 250; 25)	-/- (300/-)	50/100 (120)	7.0 (7.2)	250 (250)	5, 1, 50, 2 (5, 1, 50, -)	100, 0, 0, 0 (100, 0, 10, -)	5000 (5000)	30-90 (26-80)	un/pack (ms): 12000 (10000) c. splash: - (35c+0h+15p)
battering ram	4 (3)	0, 100, 300, 100, 0; 40 (-, 0, 350, 200, 0; 30)	-/- (60/-)	40 (80)	6.0 (8.1)	400 (400)	5, 1, 50, 2 (5, 1, 50, -)	40, 0, 0, 0 (150, 0, 0, -)	1000 (1500)	6.5 (6.5)	garrison capacity: 8 (10)
siege tower	6 (3)	0, 200, 500, 300, 0; 180 (-, 0, 500, 300, 0; 60)	-/- (60/-)	100 (80)	4.0 (6.3)	750 (500)	5, 1, 50, 2 (5, 1, 50, -)	2, 0, 6, 0 (2.5, 0, 12, -)	1000 (2000)	10-60+10 (10-55+10)	garrison capacity: 20 (20) arrow count: 2-12 (0-10)

## 2.11 Ships

class	pop. size	construction costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
fishing boat	0 (1)	0, 15, 60, 0, 0; 20 (-, 0, 50, 0, 0; 20)	-/- (1/-)	75 (30)	12.0 (9.9)	150 (200)	2, 2, 4, 2 (2, 2, 5, -)	0, 0, 0, 10 (0, 10, 0, -)	1000 (1000)	5 (5)	garrison capacity: 1 (1) food capacity: 60 (40)
merchant ship	0 (1)	0, 30, 120, 60, 0; 40 (-, 0, 0, 100, 0; 20)	-/- (25/-)	90 (50)	11.0 (12.15)	600 (400)	3, 3, 6, 3 (2, 2, 5, -)	- (-)	- (-)	- (-)	garrison capacity: 15 (15) trade gain: 0.75 (0.75)
fireship	0 (1)	0, 0, 150, 0, 0; 15 (-, 0, 50, 0, 0; 30)	-/- (-/-)	60 (60)	13.0 (14.4)	450 (500)	4, 4, 8, 4 (5, 5, 10, -)	5, 5, 5, 5 (10, 10, 10, -)	100 (100)	10 (8)	regeneration: -5 (-6); death damage
barge (trireme)	0 (3)	0, 50, 250, 100, 0; 50 (-, 0, 150, 150, 0; 40)	-/- (100/-)	120 (90)	10.0 (14.58)	1800 (1600)	5, 5, 10, 5 (5, 5, 10, -)	0, 0, 5, 0 (0, 0, 35, -)	1000 (2000)	60 (55)	garrison capacity: 45 (40) arrow count: 0-20 (3-13)
huge barge (trireme)	0 (3)	0, 100, 400, 150, 0; 80 (-, 0, 150, 150, 0; 40)	-/- (100/-)	120 (90)	8.5 (14.58)	2700 (1600)	5, 5, 10, 5 (5, 5, 10, -)	0, 0, 5, 0 (0, 0, 35, -)	1000 (2000)	60 (55)	garrison capacity: 75 (40) arrow count: 0-30 (3-13)
triaconter (bireme)	0 (2)	0, 60, 60, 30, 0; 30 (-, 0, 125, 50, 0; 20)	-/- (75/-)	105 (90)	10.0 (13.95)	300 (800)	5, 5, 10, 5 (5, 5, 10, -)	0, 0, 6, 0 (0, 0, 35, -)	1000 (2000)	60 (45)	garrison capacity: 5 (20) arrow count: 1-3 (2-10)
penteconter (bireme)	0 (2)	0, 100, 100, 50, 0; 45 (-, 0, 125, 50, 0; 20)	-/- (75/-)	105 (90)	9.5 (13.95)	500 (800)	5, 5, 10, 5 (5, 5, 10, -)	0, 0, 6, 0 (0, 0, 35, -)	1000 (2000)	60 (45)	garrison capacity: 10 (20) arrow count: 1-5 (2-10)
trireme (trireme)	0 (3)	0, 300, 300, 150, 0; 60 (-, 0, 150, 150, 0; 25)	-/- (100/-)	100 (90)	8.5 (16.2)	1500 (1400)	6, 6, 12, 6 (5, 5, 10, -)	0, 0, 6, 0 (0, 0, 35, -)	1000 (2000)	60 (55)	garrison capacity: 20 (30) arrow count: 2-10 (3-13)
quadrireme (trireme)	0 (3)	0, 400, 400, 200, 0; 75 (-, 0, 150, 150, 0; 25)	-/- (100/-)	100 (90)	8.0 (16.2)	2000 (1400)	6, 6, 12, 6 (5, 5, 10, -)	0, 0, 6, 0 (0, 0, 35, -)	1000 (2000)	60 (55)	garrison capacity: 40 (30) arrow count: 4-20 (3-13)
quinqereme	0 (3)	0, 500, 500, 250, 0; 90 (-, 0, 350, 200, 350; 30)	-/- (150/-)	100 (110)	7.5 (16.2)	2500 (2000)	7, 7, 14, 7 (5, 5, 10, -)	0, 0, 6, 0 (100, 0, 10, -)	1000 (5000)	60 (10-72)	garrison capacity: 60 (50) arrow count: 6-30 (1-10)



### 3 Structures

#### 3.1 Civic

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
centre, crannog (civil center)	0, 300, 300, 0, 0; 500 (-, 0, 500, 500, 500; 500)	15 (20)	60, 60, 60, 0, 0; 250 (-, 0, 200, 200, 200; 200)	3, 25, 35, 30 (3, 25, 35, -)	2500 (2500)	20 (20)	3000 (3000)	1/150/10000 (1/140/10000)	100 (90)
pillar (monument) (pillar)	0, 0, 0, 100, 100; 100 (-, 0, 0, 100, 100; 120) (-, 0, 0, 100, 100; 80)	0 (0) (0)	0, 0, 0, 20, 20; 0 (-, 0, 0, 25, 25; 0) (-, 0, 0, 25, 25; 0)	5, 25, 35, 30 (3, 20, 30, -) (3, 20, 30, -)	- (-) (-)	- (-) (-)	1000 (1200) (1000)	1/50/50000 (1/38/40000) (1/38/40000)	50 (60) (40)
temple	0, 0, 100, 100, 300; 300 (-, 0, 0, 0, 300; 200)	0 (5)	0, 0, 20, 20, 60; 0 (-, 0, 0, 50, 50; 0)	5, 25, 35, 30 (3, 20, 30, -)	1000 (500)	20 (20)	2000 (2000)	0/50/50000 (0/40/30000)	50 (40)
library	0, 0, 150, 150, 450; 400 (-, 0, 0, 200, 200; 200)	0 (0)	0, 0, 30, 30, 90; 0 (-, 0, 0, 50, 50; 0)	5, 25, 35, 30 (3, 20, 30, -)	1000 (500)	25 (5)	2500 (2000)	0/50/50000 (0/50/40000)	50 (40)
lighthouse	0, 0, 200, 200, 600; 500 (-, 0, 0, 200, 200; 200)	0 (0)	0, 0, 40, 40, 120; 0 (-, 0, 0, 50, 50; 0)	5, 25, 35, 30 (3, 20, 30, -)	1000 (500)	(5) (5)	3000 (2000)	- (0/0/40000)	200 (180)
theatre	0, 0, 300, 300, 900; 600 (-, 0, 0, 500, 500; 500)	0 (0)	0, 0, 60, 60, 180; 0 (-, 0, 0, 125, 125; 0)	5, 25, 35, 30 (3, 20, 30, -)	1000 (500)	(5) (5)	4000 (2000)	0/100/50000 (0/100/40000)	50 (40)
wonder	0, 0, 1000, 1000, 2000; 1200 (-, 1000, 1000, 1000, 1000; 1000)	0 (0)	400, 200, 200, 200, 200; 0 (-, 300, 300, 300, 300; 300)	5, 25, 35, 30 (3, 15, 25, -)	3000 (2000)	50 (30)	6000 (5000)	1/100/65535 (1/100/65535)	50 (72)

#### 3.2 Economic

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
field	0, 0, 100, 0, 0; 60 (-, 0, 100, 0, 0; 50)	0 (0)	0, 0, 20, 0, 0; 0 (-, 50, 0, 0, 0; 0)	5, 15, 40, 25 (5, 15, 40, -)	100 (500)	- (-)	300 (250)	- (-)	0 (0)
corral	0, 0, 100, 0, 0; 30 (-, 0, 100, 0, 0; 50)	0 (0)	0, 0, 20, 0, 0; 0 (-, 25, 10, 0, 0; 0)	1, 5, 20, 10 (1, 1, 20, -)	300 (500)	3 (-)	500 (500)	- (0/20/30000)	30 (20)
storehouse	0, 0, 100, 0, 0; 40 (-, 0, 100, 0, 0; 40)	0 (0)	0, 0, 20, 0, 0; 0 (-, 0, 10, 0, 0; 0)	1, 5, 20, 10 (1, 5, 20, -)	300 (300)	4 (-)	700 (800)	- (0/20/30000)	30 (20)
farmstead	0, 0, 100, 0, 0; 50 (-, 0, 100, 0, 0; 45)	0 (0)	0, 0, 20, 0, 0; 0 (-, 100, 10, 0, 0; 0)	1, 5, 20, 10 (1, 5, 20, -)	300 (300)	5 (-)	900 (900)	- (0/20/30000)	30 (20)
small house	0, 0, 75, 0, 0; 25 (-, 0, 75, 0, 0; 30)	5 (5)	0, 0, 15, 0, 0; 0 (-, 0, 10, 0, 0; 0)	1, 5, 20, 10 (3, 20, 30, -)	200 (300)	3 (3)	600 (800)	- (0/16/65535)	30 (20)
big house	0, 0, 150, 0, 0; 45 (-, 0, 150, 0, 0; 50)	10 (10)	0, 0, 30, 0, 0; 0 (-, 0, 20, 0, 0; 0)	1, 5, 20, 10 (3, 20, 30, -)	400 (300)	6 (6)	1000 (1200)	- (0/20/40000)	30 (20)
dock	0, 0, 200, 0, 0; 150 (-, 0, 200, 0, 0; 150)	0 (5)	0, 0, 40, 0, 0; 0 (-, 30, 30, 0, 0; 0)	3, 20, 35, 10 (3, 20, 35, -)	500 (500)	5 (1)	1500 (2500)	- (-)	30 (40)
market	0, 0, 300, 0, 0; 120 (-, 0, 300, 0, 0; 150)	0 (0)	0, 0, 60, 0, 0; 0 (-, 25, 25, 25, 25; 0)	1, 5, 20, 10 (1, 5, 20, -)	500 (500)	10 (-)	1500 (1500)	- (0/40/30000)	30 (32)
rotary mill	0, 0, 200, 0, 100; 100 (-, 0, 200, 0, 100; 100)	0 (2)	0, 0, 40, 0, 20; 0 (-, 50, 25, 0, 15; 0)	3, 20, 30, 10 (3, 20, 30, -)	300 (500)	6 (-)	1500 (2000)	- (0/32/40000)	30 (40)

### 3.3 Military

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
blacksmith	0, 0, 200, 100, 0; 150 (-, 0, 200, 0, 0; 200)	0 (0)	0, 0, 40, 20, 0; 0 (-, 0, 50, 25, 0; 0)	3, 20, 40, 30 (3, 20, 35, -)	500 (500)	8 (1)	2000 (2000)	0/40/40000 (0/38/30000)	40 (32)
embassy	0, 0, 200, 0, 0; 150 (-, 0, 100, 200, 100; 150)	0 (0)	0, 0, 40, 0, 0; 0 (-, 0, 10, 0, 20; 0)	3, 20, 40, 30 (3, 20, 30, -)	1000 (500)	6 (6)	2000 (2000)	0/40/40000 (0/25/40000)	40 (24)
kennel	0, 50, 50, 0, 0; 50 (-, 0, 50, 200, 50; 50)	0 (0)	0, 10, 10, 0, 0; 0 (-, 0, 10, 10, 0; 0)	3, 20, 40, 30 (5, 10, 40, -)	250 (500)	5 (5)	500 (500)	0/20/40000 (0/20/30000)	40 (40)
barracks	0, 100, 300, 0, 0; 150 (-, 0, 300, 0, 0; 150)	0 (0)	0, 20, 60, 0, 0; 0 (-, 0, 30, 0, 10; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	15 (10)	2000 (2000)	0/40/40000 (0/50/40000)	40 (32)
practice range	0, 100, 300, 0, 0; 150 (-, 0, 300, 0, 0; 150)	0 (0)	0, 20, 60, 0, 0; 0 (-, 0, 30, 0, 10; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	10 (10)	2000 (2000)	0/40/40000 (0/50/40000)	40 (32)
camel stables	0, 100, 300, 0, 0; 150 (-, 0, 0, 0, 200; 150)	0 (0)	0, 20, 60, 0, 0; 0 (-, 0, 30, 0, 10; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	10 (10)	2000 (2000)	0/40/40000 (0/50/40000)	40 (32)
cavalry stables	0, 100, 300, 0, 0; 150 (-, 0, 0, 0, 200; 150)	0 (0)	0, 20, 60, 0, 0; 0 (-, 0, 30, 0, 10; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	10 (10)	2000 (2000)	0/40/40000 (0/50/40000)	40 (32)
chariot stables	0, 100, 300, 0, 0; 200 (-, 0, 0, 0, 200; 150)	0 (0)	0, 20, 60, 0, 0; 0 (-, 0, 30, 0, 10; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	5 (10)	2000 (2000)	0/40/40000 (0/50/40000)	40 (32)
elephant stables	0, 100, 300, 0, 0; 250 (-, 0, 0, 200, 200; 300)	0 (0)	0, 20, 60, 0, 0; 0 (-, 0, 0, 50, 50; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	5 (5)	2000 (3000)	0/40/40000 (0/38/40000)	40 (40)
workshop	0, 100, 300, 0, 0; 200 (-, 0, 300, 0, 0; 200)	0 (0)	0, 20, 60, 0, 0; 0 (-, 0, 75, 0, 0; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	2 (2)	2000 (2000)	0/40/40000 (0/38/40000)	40 (40)
shipyard (dock)	0, 100, 300, 0, 0; 150 (-, 0, 200, 0, 0; 150)	0 (5)	0, 20, 60, 0, 0; 0 (-, 30, 30, 0, 0; 0)	3, 20, 40, 30 (3, 20, 35, -)	1000 (500)	5 (1)	2000 (2500)	- (-)	40 (40)
harbour (super dock)	0, 100, 400, 100, 200; 500 (-, 0, 300, 0, 200; 500)	0 (10)	0, 20, 80, 20, 40; 0 (-, 0, 75, 50, 50; 0)	3, 20, 40, 30 (3, 20, 35, -)	2500 (2000)	5 (5)	5000 (5000)	1/200/25000 (1/200/25000)	100 (100)

### 3.4 Defensive

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
outpost	0, 0, 75, 0, 0; 30 (-, 0, 80, 0, 0; 40)	0 (0)	0, 0, 15, 0, 0; 0 (-, 0, 8, 0, 0; 100)	1, 5, 20, 10 (1, 5, 20, -)	500 (500)	1 (1)	750 (800)	- (-)	80 (80)
small tower (sentry tower)	0, 50, 100, 0, 50; 90 (-, 0, 100, 0, 0; 40)	0 (0)	0, 10, 20, 0, 0; 0 (-, 0, 20, 0, 0; 100)	2, 20, 30, 25 (1, 20, 25, -)	500 (500)	3 (3)	1000 (500)	0/16/30000 (0/16/30000)	80 (80)
large tower (defense tower)	0, 50, 150, 0, 100; 150 (-, 0, 100, 0, 100; 150)	0 (0)	0, 10, 30, 0, 20; 0 (-, 0, 0, 0, 20; 100)	3, 25, 30, 30 (3, 25, 30, -)	500 (500)	5 (5)	1500 (1000)	0/32/40000 (0/32/40000)	80 (80)
fortress	0, 200, 400, 100, 800; 600 (-, 0, 0, 0, 1000; 500)	0 (10)	0, 40, 80, 20, 160; 0 (-, 0, 0, 0, 65; 100)	3, 25, 30, 30 (6, 25, 40, -)	4000 (4000)	30 (20)	6000 (4200)	1/100/40000 (0/100/40000)	100 (80)
palisade short	0, 0, 10, 0, 0; 5 (-, 0, 4, 0, 0; 5)	0 (0)	0, 0, 2, 0, 0; 0 (-, 0, 10, 0, 0; 100)	2, 4, 25, 10 (2, 4, 25, -)	500 (1200)	- (-)	400 (250)	- (-)	10 (20)
palisade medium	0, 0, 20, 0, 0; 10 (-, 0, 7, 0, 0; 8)	0 (0)	0, 0, 4, 0, 0; 0 (-, 0, 10, 0, 0; 100)	2, 4, 25, 10 (2, 4, 25, -)	500 (1200)	- (-)	600 (500)	- (-)	10 (20)
palisade long	0, 0, 30, 0, 0; 15 (-, 0, 13, 0, 0; 11)	0 (0)	0, 0, 6, 0, 0; 0 (-, 0, 10, 0, 0; 100)	2, 4, 25, 10 (2, 4, 25, -)	500 (1200)	- (-)	800 (750)	- (-)	10 (20)
palisade gate	0, 0, +20, 0, 0; +5 (-, 0, +20, 0, 0; +5)	0 (0)	0, 0, 10, 0, 0; 0 (-, 0, 10, 0, 0; 100)	2, 4, 25, 10 (2, 4, 25, -)	500 (1200)	- (-)	1000 (637)	- (-)	10 (20)
palisade tower	0, 0, 15, 0, 0; 12 (-, 0, 5, 0, 0; 7)	0 (0)	0, 0, 3, 0, 0; 0 (-, 0, 10, 0, 0; 100)	2, 4, 25, 10 (2, 4, 25, -)	500 (1200)	- (-)	500 (750)	- (-)	10 (20)
siege wall short	0, 0, 30, 0, 0; 15 (-, 0, 20, 0, 0; 15)	0 (0)	0, 0, 6, 0, 0; 0 (-, 0, 15, 0, 0; 100)	5, 15, 35, 25 (5, 15, 35, -)	1000 (1200)	1 (-)	1000 (750)	- (-)	20 (20)
siege wall medium	0, 0, 60, 0, 0; 30 (-, 0, 40, 0, 0; 30)	0 (0)	0, 0, 12, 0, 0; 0 (-, 0, 15, 0, 0; 100)	5, 15, 35, 25 (5, 15, 35, -)	1000 (1200)	3 (3)	1500 (1500)	- (-)	20 (20)
siege wall long	0, 0, 90, 0, 0; 45 (-, 0, 60, 0, 0; 45)	0 (0)	0, 0, 18, 0, 0; 0 (-, 0, 15, 0, 0; 100)	5, 15, 35, 25 (5, 15, 35, -)	1000 (1200)	5 (5)	2000 (2250)	- (-)	20 (20)
siege wall gate	0, 0, +30, +30, 0; +15 (-, 0, +80, 0, 0; +10)	0 (0)	0, 0, 24, 6, 0; 0 (-, 0, 15, 0, 0; 100)	5, 15, 35, 25 (5, 15, 35, -)	1000 (1200)	- (-)	1700 (1912)	- (-)	20 (20)
siege wall tower	0, 0, 120, 0, 0; 60 (-, 0, 100, 0, 0; 80)	0 (0)	0, 0, 24, 0, 0; 0 (-, 0, 15, 0, 0; 100)	5, 15, 35, 25 (5, 15, 35, -)	1000 (1200)	2 (2)	2500 (3000)	- (-)	(60) (60)
city wall short	0, 0, 15, 0, 45; 30 (-, 0, 0, 0, 15; 15)	0 (0)	0, 0, 3, 0, 9; 0 (-, 0, 0, 0, 15; 100)	3, 25, 30, 30 (3, 25, 30, -)	1500 (1200)	1 (-)	2000 (1000)	0/20/65535 (0/20/65535)	30 (20)
city wall medium	0, 0, 30, 0, 90; 45 (-, 0, 0, 0, 22; 30)	0 (0)	0, 0, 6, 0, 18; 0 (-, 0, 0, 0, 15; 100)	3, 25, 30, 30 (3, 25, 30, -)	1500 (1200)	3 (3)	3000 (2000)	0/20/65535 (0/20/65535)	30 (20)
city wall long	0, 0, 45, 0, 135; 60 (-, 0, 0, 0, 28; 45)	0 (0)	0, 0, 9, 0, 27; 0 (-, 0, 0, 0, 15; 100)	3, 25, 30, 30 (3, 25, 30, -)	1500 (1200)	5 (5)	4000 (3000)	0/20/65535 (0/20/65535)	30 (20)
city wall gate	0, 0, +30, +30, 0; +15 (-, 0, 0, 0, +60; +10)	0 (0)	0, 0, 18, 6, 36; 0 (-, 0, 0, 0, 15; 100)	3, 25, 30, 30 (3, 25, 30, -)	1500 (1200)	- (-)	3400 (2550)	0/20/65535 (0/20/65535)	30 (20)
city wall tower	0, 0, 60, 0, 180; 90 (-, 0, 0, 0, 90; 80)	0 (0)	0, 0, 12, 0, 36; 0 (-, 0, 0, 0, 15; 100)	3, 25, 30, 30 (3, 25, 30, -)	1500 (1200)	2 (2)	5000 (4000)	0/20/65535 (0/20/65535)	(60) (60)

## 4 Technologies

### 4.1 Civilization bonuses

*All bonuses and penalties from the default distribution have been removed.*

**Celtic Architecture** (Britons, Gauls): all structures  $-20\%$  build time,  $-10\%$  health; temples  $-50\%$  stone cost,  $+100\%$  wood cost.

**Greek Architecture** (Greeks, Macedonians, Seleucids): civic structures  $+20\%$  health.

**Egyptian Architecture** (Kushites, Ptolemies): economic structures  $-75\%$  wood cost,  $+100\%$  build time; military structures  $-50\%$  wood cost,  $+50\%$  build time; fortresses  $+25\%$  build time,  $+10\%$  health.

**Indian Architecture** (Mauryas): city walls and temples 0 stone cost,  $+200\%$  wood cost,  $-30\%$  build time,  $-20\%$  health.

**Indian Training** (Mauryas): elephants  $-20\%$  training time.

**Iberian Architecture** (Iberians): centres  $-10\%$  build time,  $-5\%$  health; large towers  $+20\%$  stone and wood costs,  $+10\%$  build time,  $+30\%$  health.

**Persian Architecture** (Persians): economic structures  $+20\%$  health.

**Persian Training** (Persians): archers  $-20\%$  training time.

**Punic Architecture** (Carthaginians): city walls  $+20\%$  stone cost,  $+20\%$  build time,  $+30\%$  health; fortresses  $+10\%$  stone cost,  $+10\%$  build time,  $+20\%$  health; markets  $-50\%$  wood cost.

**Punic Training** (Carthaginians): traders  $-20\%$  training time.

**Roman Architecture** (Romans): city walls  $+10\%$  health; military structures  $-10\%$  build time.

**Roman Training** (Romans): siege weapons  $-20\%$  construction time.